

DRIVE



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January-February 1980 50p

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that's so different

‘The only time
our village gets any peace
is when an accident blocks
the road’

‘With a company
car, it doesn't really matter
how much petrol I use’

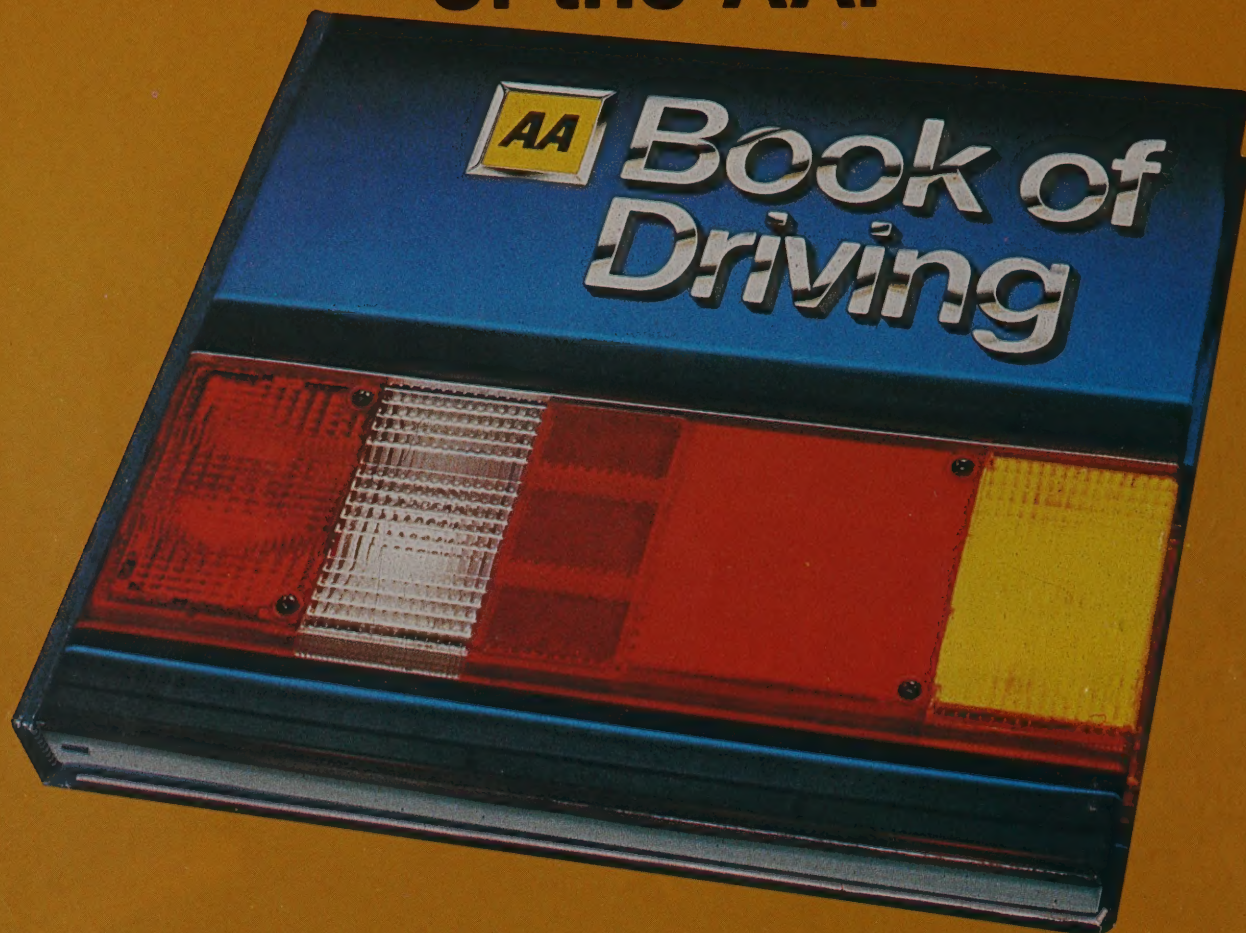
‘I wouldn't buy
a Gordini. Couldn't stand
the strain of feeling obliged
to race everybody’

‘The bitterness of
last winter will not easily
be forgotten’

‘Bad rustproofing
is worse than none at all—it
makes the untreated
areas rust faster’

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1980, ALREADY . . . and, as we stand at the threshold of a new decade, it looks as if reactionary ayatollahs and hawkish oil sheikhs will combine to give us a harder time than any altogether more sinister band of 1984 big brothers. It is, in truth, the dawning of a decade of energy-consciousness that demands to be met with determination and inspiration, and in which we may hope to see technological advances to surpass those of any earlier automotive age.

Here, we welcome in the 1980s with the first of several significant changes to the magazine that we hope will earn your approval: see our revised car tests, the first of a regular 'vox-pop' series (page 20), a Consumer column (page 51) and the new-look Monitor.

It pleases us that, for the present, we can hold our coverprice at 50p. Not-so-good news for subscribers is that, from 1 January, we must increase the annual charge to £3.95, to attempt to meet the ever-rising cost of fulfilling orders. Sorry . . .

— the Editor

Disappearing trick

CARS THAT were being rustproofed six years ago, when firms offering specialist after-market treatments were beginning to boom, are now approaching the end of their warranty periods. Hundreds of claims have already been lodged, and the figure is expected to rise sharply as more and more owners take a hard look at their vehicles before their guarantees expire.

A large number of these motorists are in for disappointment: in many cases, they will find that the workshop that applied the treatment is no longer in business.

Over the years, many 'backstreet operators have lured customers with huge discounts, then suddenly downed the few tools at their disposal and disappeared. Their poor standards and warranties, not worth the paper on which they were written, have done much to tarnish the image of reputable companies.

This is one of the reasons why Robert Clay, managing director of the Bodyshield group, is spearheading a move to form a trade federation and a strict code of practice.

'By doing business with these firms, both the public and the trade would be assured of a good deal,' he says. 'The code would insist on warranties covering not only rust-proofing treatments but also workmanship.'

Clay's initiative, which has the AA's support, is to be applauded. In addition, he hopes that other firms will follow his company's example by sending reminders to customers when their cars are due for inspection—a condition of warranty. 'Many operators gamble on owners forgetting these checks, which invalidates the guarantees,' he says.

● Turn to page 58 for the complete lowdown on rustproofing.

IT'S A LITTLE-KNOWN fact that nearly one in five of motorists who fail a breath-test subsequently manage to pass a blood or urine test at a police station.

Apart from the innocent motorist's nightmare experience of arrest, this discrepancy also represents a waste of police time and public money. The need for a better screening device is obvious, and Cardiff scientists have come up with the Alcolmeter S-L2—a small box that incorporates an electro-chemical fuel cell to generate a voltage in proportion to the amount of alcohol in the sample of breath. The verdict is displayed by lamps coloured red, amber or green to provide a clear indication of the result.

Motorists in parts of W Yorkshire and Sussex will be the first to get a personal demonstration of the Alcolmeter when it goes on trial with regional police forces. The AA will be conducting its own tests on the instrument that, it's hoped, will cut down on the number of innocent motorists arrested.



Cheapskate

IF, LAST SUMMER, you sat fuming in one of the traffic jams caused by the many maintenance gangs at work, you can at least console yourself that the roads will be better able this winter to withstand the ravages of snow and ice.

Or can you? Says Dennis Clark, president of the Institution of Municipal Engineers: 'It's true that most, if not all, local authorities stepped-up resurfacing work in the summer. But a lot of it was simple tar spraying, when, ideally, hot-rolled asphalt should have been used.'

He explains: 'Hot-rolled asphalt gives a better ride, has superior anti-skid characteristics, is less prone to damage and lasts much longer. But, because of the shortage of cash for roads, we had to opt for the cheaper, less-effective alternative.'

The big worry, Clark goes on, is that, in many cases, tar spray was put down without first repairing

structural foundation damage—again for economy. 'The day is getting nearer when, after years of inadequate maintenance brought about by the Whitehall axe, the chickens really will come home to roost. Then, the country will face a mammoth road-rebuilding bill.'

In fact, the day of reckoning, he warns, is likely to be with us even sooner, in the wake of the 3% local-authority spending cutback ordered by the government in the autumn.

'Another bad winter this year will undoubtedly mean many more potholes, and further undermining of foundations. It's because of this that the IME is increasing pressure on the ministry to change its outlook . . . before it is too late.'

Window pain

ELECTRICALLY powered windows can exert pressures of up to 95lb/psi, particularly along their upper edges. That's enough to injure fingers—especially children's.

Now, Lucas has dreamed up a better idea—a touch-sensitive strip that's inlaid in the window glass and transmits a signal to the motor drive at the first hint of resistance.

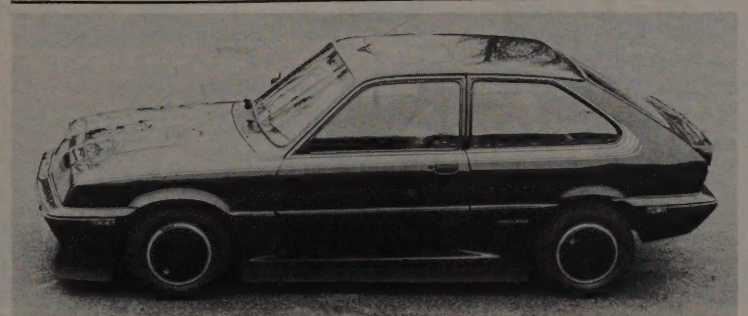
Not only does the window stop rising, it can also go into reverse.

Exhausted possibility

REMEMBER the ballyhoo that surrounded the debut of Honda's CVCC stratified-charge engine, a few years ago? The complex design, which included a kind of pre-combustion chamber above the cylinder head, was heralded as a great step forward in the exhaust-emission clean-up. So much so, in fact, that other manufacturers approached Honda for manufacturing licences.

Now, according to a report from Japan, Honda is planning to drop the CVCC engine, though production will continue for another two years or so.

The snag is one that's been causing emission-conscious legislators an increasing amount of embarrassment: the cleaner the exhaust, the



MODERN FORMULA 1 cars have as much in common with the family saloon as the jet engine has with the horse. But, very occasionally these days, the GP world throws up an idea with some general value . . .

Ask us about the racing idea most unlikely to catch on, and we would have said 'skirts'—until recently, that is. Now, we learn that Vauxhall is to market a kit of deep front and side skirts for Chevettes. Made of $\frac{1}{2}$ -in-thick rubber sheet, the skirts are $3\frac{1}{2}$ -in deep—seen here on Black Magic, one of several 'project' cars created by Vauxhall's design director, Wayne Cherry.

The skirts limit the volume of air passing under the car, ensuring that it doesn't 'spill out' along the body sides to create drag-inducing vortices. A side-effect of directing more air over the vehicle is that lift is reduced, yielding improvement in both fuel consumption and high-speed stability.

In wind-tunnel tests, Black Magic showed a 20.4% reduction in drag compared to a standard 1256cc Chevette, and a 12.1% reduction compared to a Chevette HS2300 hatchback.

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soar for hours and, in a dive, reach up to 200m.p.h.
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more fuel the engine needs. So, putting economy before ecology, Honda is fitting catalytic converters to its exhausts instead.

Ford French first

FORD has picked the Paris Motor Show (October 1980) as the launch platform for its new car, code-name Erika. It's the car that will replace the Escort, and Ford plans to build it in Britain, Spain and W Germany.

Bikes boom

IT COULD be the return of Mod fashion, or maybe more ladies are taking to two wheels, but motor-scooter sales are booming.

Vespa, the only manufacturer left in the business, reports a 29% increase in sales for the first six

months of 1979, compared with the same period in 1978.

Motorcycle dealers are also happy to see petrol prices forcing more people on to two wheels, but, overall, mopeds are taking the lion's share of the market; while the total of two-wheel sales has risen by 25%, 55% of all sales is made up of sub-50cc machines.

Meanwhile, a new sales area has been found for superbikes—1000cc-plus monsters with features such as shaftdrive. It seems that many are going to well-heeled car owners who seek entertainment rather than transport.

New Horizons

TALBOT is moving into the electronic age with its Horizon SX, complete with cruise control, trip computer

and automatic transmission as well.

The computer is a five-function unit that gives the driver touch-of-a-button visual displays of elapsed journey-time, trip distance, fuel consumption, average rate of consumption and average speed.

Oh yes, there's also a digital clock.

As Talbot's top-of-the-range model, the SX has such standard features as front-seat head-restraints, tinted glass, a tailgate wash-wipe, remote-control driver's and passenger's door mirrors, a laminated windscreen and a radio/cassette player.

Less futuristic was Talbot's recent recall of 22,000 Alpines built in the UK between August 1978 and April 1979. Said a spokesman: 'This is a precautionary measure. We have found that, in a few, isolated cases

where the routing is incorrect, it is possible for the front-brake hoses to foul the road wheels on full lock.'

Modifications are free and, at the same time, dealers will reroute the engine's auxiliary unit wiring.

If you knew Suzi

SUZUKI is best known in the UK for its motorcycles, but means to change its image with a little car called the SC100.

Unusually, it features a rear-engine/rear-wheel-drive configuration à la Hillman Imp, and places great faith in the continued need for fuel economy. Suzuki has certainly cut down on space, with next-to-no luggage room in the forward boot, and a rear seat that's suitable only for contortionists and babes.

Suzuki engineers are confident

DRIVE ON-THE-ROAD NEW-CAR PRICE-GUIDE

What's it called? How much does it cost? DRIVE's superguide to the latest prices of new cars currently available in Britain tells you all you need to know, immediately, whether you're buying or just browsing. And our prices aren't just what the manufacturer says: we tell you the size of the cheque you can expect to write to put your new Mini or Rolls on the road, seatbelts, numberplates, road-fund licence and delivery paid. Want to know more? Well, if the car of your choice has a DRIVE/AA road-test report number beside it, you can have a copy of the best car criticism in the business. AA members can apply to their regional AA office—address in *Handbook*. Otherwise, write to DRIVE New-car Price-guide, Farnum House, Basingstoke, Hants, RG21 2EA. But we must now ask readers who request more than one to pay 10p for each report.

(a) denotes road test on automatic model only; delivery charges where applicable estimated on an average 200 miles.

Model	Manual	Auto	DRIVE/AA Road Test
AC (18 dealers)			
3000ME	13377	—	
ALFA ROMEO (150 dealers)			
Alfasud Super			
1.3 (1350cc)	3670	—	
Super 1.5	3852	—	
Ti 1.5	4075	—	
Sprint 1.5	5055	—	D6/79
Sprint Veloce	5215	—	
Giulietta 1.6	4895	—	D25/79
1.8	5215	—	
2000L	5799	—	
GTV2000	6576	—	
GTV Strada	8035	—	
ASTON MARTIN (13 dealers)			
V8	28858	28858	
V8 Vantage	30987	—	
V8 Volante	36168	36168	
Lagonda	—	40040	
AUDI (340 dealers)			
80LS	5149	5484	
GLS	5757	6092	D18/79
GLE	6815	—	
100 Avant L	5960	—	
L5S	6434	6963	
GL 5S	6944	7474	
L5D	7210	—	
Avant GL 5S	7319	7849	
GL 5E	7672	8201	
CD 5E	—	9424	
Avant CD 5E	—	9867	
AUSTIN MORRIS (1850 dealers)			
Mini 850 City	2524	—	RTR340
850 Super	2761	—	
1000 Super	2830	3260	D3/78
Clubman			
(1098cc)	3120	—	
Clubman			
(998cc)	—	3550	D3/78
estate			
(1098cc)	3387	—	
estate			
(998cc)	—	3817	
Allegro 1100DL	3205	—	
1300 2dr	3326	3756	
4dr	3450	3880	
1300L 2dr	3590	4020	
4dr	3714	4144	
1300HL 4dr	4134	4564	RTR377
1300 estate	3688	4118	
1300L estate	3952	4382	
1500L 4dr	3880	—	
1500L estate	4118	—	
1500HL 4dr	4300	—	D5/79
1750L 4dr	—	4302	

1750L estate	—	4540	
1750HL 4dr	—	4722	
Vanden Plas			
1500 4dr	4980	5410	
Marina 1300	3443	—	
4dr	3577	—	
1300L 2dr	3714	—	
4dr	3814	4203	RTR392
1300HL 4dr	4208	4597	
1300 estate	4057	—	
1700 4dr	3877	—	
1700L 4dr	4114	4503	
1700HL 4dr	4538	4927	D4/79
1700 estate	4331	—	
1700L estate	4568	4957	
1700HL estate	4956	5345	
Maxi 1500	4213	—	RTR263
1750	4391	4850	
1750HL	4667	5126	
1750HLS	4796	—	
Princess 1700L	4439	4925	
1700HL	4814	5300	
1700HLS	5336	5822	
2000HL	5076	5562	
2000HLS	5595	6081	
2200HL	5482	5968	D11/78
2200HLS	6086	6572	
BENTLEY (78 dealers)			
T2 Series	—	36824	
Corniche	—	53494	
Convertible	—	56808	
BMW (144 dealers)			
316	5311	—	R1149
320	5680	6117	R1149
323i	7761	—	D12/79
518	6865	—	
520	7983	8420	D2/78
525	9101	9538	
528i	10326	10763	
633CSi	—	17673	
635CSi	18951	—	
728i	12056	12606	
732i	13854	14404	
735i	15606	15960	
BRISTOL (0 dealer)			
412 S2			
convertible-saloon	—	32817	
603 S2	—	36303	
BUICK (5 dealers)			
Century	—	9578	
CADILLAC (5 dealers)			
Seville Elegante	—	21769	
Elegante (lhd)	—	19396	
Seville	—	18362	
Seville (lhd)	—	15989	
Fleetwood			
Brougham			
d'Elegance	—	15869	

CATERHAM CARS (0 dealers)			
Super Seven TC	5238	—	
1600GT	4633	—	
CHEVROLET (5 dealers)			
Caprice Classic	—	12904	
Classic (lhd)	—	10680	
Classic estate	—	13028	
Classic estate (lhd)	—	10805	
Monte Carlo coupé	—	9878	
Corvette (lhd)	—	12228	
CITROËN (260 dealers)			
2CV6	2205	—	RTR118
Dyane Weekend	2423	—	D1/79
Visa Club	3083	—	
Super	3383	—	
GS special	3412	—	
estate	3702	—	
Club	3766	4009	RTR384
Club estate	4021	—	D5/79
Pallas	4182	4525	
GSX-3	4445	—	
CX Reflex	5830	—	
Athena	6362	—	
Pallas 2400	7264	7468	
Injection	—	7932	
CX2400 Super	6789	6993	
Pallas	7264	7468	
GTi	7910	—	
Prestige			
Injection	10549	—	
Safari	6790	7121	RTR416
S Familiale	6912	7243	
CX2500D Super	6866	—	
D Safari	7172	—	
D Familiale	7292	—	
COLT (280 dealers)			
GLX 3dr			
hatchback	3919	—	
GLX 5dr			
hatchback	4189	—	
1400 estate	4029	—	
Celeste 1600ST	4349	—	
GS	4559	—	
2000GT	4879	—	
Sigma 1600GL	4559	4904	
2000GLX	5149	5494	RTR432
estate	5729	—	
Sapporo 2000	6339	6684	
DAIHATSU (78 dealers)			
F20 soft top	4941	—	
hard top	5101	—	
F50 soft top (diesel)	5435	—	
hard top (diesel)	5595	—	
Charade XG	3101	—	
XTE	3471	—	

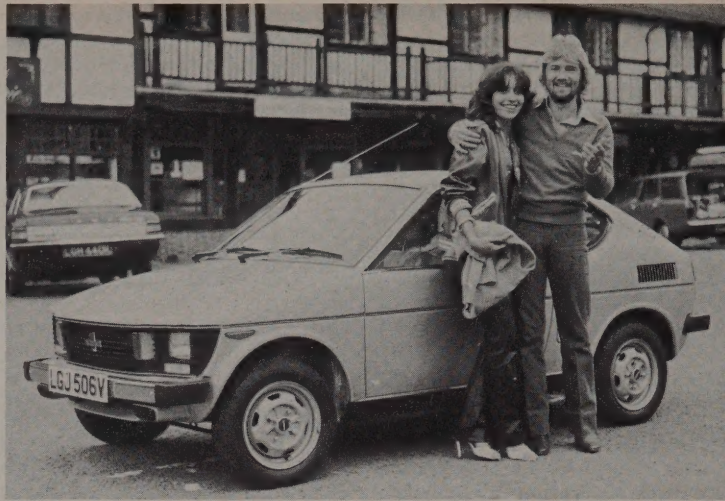
DATSUN (380 dealers)			
New Cherry 3dr			
hatchback	2898	—	
GL 3dr	3129	—	
4dr saloon	3192	—	
5dr estate	3408	—	
3dr coupé	3602	—	
Sunny 1200GLS			
2dr	3388	—	
4dr	3495	—	D20/79
1400GLS			
2dr	—	3860	
4dr	—	3957	
1200 estate	3729	—	
1400 coupé			
4-speed	3829	—	
1400 fastback estate	4031	—	
Violet 140J Mk3	3823	—	R1132M
160J Mk3	3906	4204	
SSS coupé	4391	—	
Bluebird 160B Mk II	4122	—	
180B	4230	—	
180B estate Mk II	4584	—	RTR316
180B SSS Mk II	4730	—	
Laurel 2litre MkII (PAS)	5628	5968	
2.4litre (PAS)	6328	6668	
Skyline 240K coupé	6893	7233	
280ZX			
2-seater	8760	9100	
280ZX 2 + 2	9714	10054	
280C saloon	7226	7566	
280C estate	7054	7394	
DE TOMASO (4 dealers)			
Pantera GTS	19278	—	
Longchamp	—	21502	
Deauville	—	24635	
FERRARI (18 dealers)			
Dino 308GT4	17642	—	
308GTB	19081	—	
308GTS	20009	—	
400GT	31916	31916	
512B	33188	—	
FIAT (406 dealers)			
126	2222	—	
de Ville	2440	—	D1/79
127 900L 2dr	3000	—	R1137
1050L 3dr	3200	—	
1050C 3dr	3095	—	
1050CL 3dr	3413	—	RTR429
Palio	3800	—	
Fiorino	2852	—	
Sport	3771	—	
128 1300CL	3504	—	
CL estate	3771	—	
X1/9 1500	5684	—	D14/79
Mirafiori 1300CL			
2dr	3976	—	
4dr	4105	—	
1600CL 4dr estate	4500	5203	RTR412
4751	5054	—	
Supermirafiori 1600TC	5025	5328	D10/78
Mirafiori Sport	5599	—	
132 2litre	5893	6234	
Bellini	6116	6455	

that what bodywork there is is well protected from corrosion: its system includes galvanised panels, vinyl-filled box sections and underbody sealant protection.

Is the newcomer as good as it looks (right)? DRIVE reserves judgement until a full road-test. Meanwhile, manufacturer's figures assure us that the SC100 has a top speed of 85mph, pushes out 47bhp, and will manage 0-60mph in 16.5sec.

For a 'baby', the car is certainly well equipped, complete with push-button radio, tinted glass, tachometer, clock and halogen headlamps, too.

Don't look for the SC100 in Suzuki motorbike dealers' windows —there's a separate sales network,



asking £2550 to put four Suzuki wheels on the road.

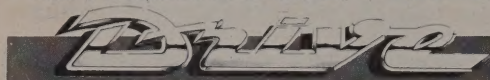
Stirling performance

WHEN, last autumn, Texaco organised a 59-mile town-and-country test of the yet-to-be-launched Suzuki SC100's economy, the winning result was an incredible 68½mpg.

So what was the secret? As the victorious driver, Stirling Moss, told DRIVE: 'The first thing I did was to call at a garage and increase the tyre pressures from the recommended 20psi front and 31psi rear—thereby reducing the car's rolling friction.'

Stirling then gave his prize of a £2400 Suzuki SC100 to charity.

This wasn't the only hiccup. After the eight celebrity participants had set out, the scrutineers had to send a dispatch rider to find a precision-



ON-THE-ROAD NEW-CAR PRICE-GUIDE

Strada 65L			
1300 3dr	3509	—	
65L 1300 5dr	3627	—	
65CL 1300			
3dr	3794	—	
65CL 1300			
5dr	3930	—	
75CL 1500			
3dr	4229	4538	
75CL 1500			
5dr	4349	4658	D17/79

FORD (1240 dealers)

Fiesta 950	2965	—	RTR417
950L	3273	—	
1100	3126	—	D16/79
1100L	3420	—	
1100S	3773	—	
1100 Ghia	4096	—	RI170
1300S	3967	—	
1300 Ghia	4291	—	
Escort 1100			
Popular	3001	—	
Popular Plus	3088	—	
1100 Popular			
Plus 4dr	3213	—	
1100L	3318	—	
1100L 4dr	3443	—	
1100 estate	3299	—	
1300 Popular	3128	—	
1300 Popular			
Plus	3216	—	D4/78
1300 Popular			
Plus 4dr	3339	—	
1300L	3412	3759	
1300L 4dr	3537	3662	
1300GL	3698	4045	
1300GL 4dr	3825	4172	
1300 Sport	3998	—	
1300 Ghia	4236	—	
1300 Ghia			
4dr	4365	—	
1300 estate	3471	—	
1300 L estate	3787	4134	
1300GL			
estate	4148	4495	
1600L	3744	4091	
1600 Sport	4110	—	
1600GL	4034	4381	
1600 Ghia	4478	4825	D4/79
Cortina 1300	3628	—	
1300 4dr	3763	—	
1300L	3974	—	RTR372
1300L 4dr	4110	—	
1600 4dr	3973	—	
1600L	4320	4667	D22/79
1600GL	4713	—	
1600 Ghia	5547	5894	
1600 estate	4399	—	
1600L estate	4786	5133	
1600GL estate	5179	5526	
1600 Ghia			
estate	6013	6360	
2000GL	4964	5311	
2000 Ghia	5704	6051	
2000GL estate	5430	5777	RTR413
2000 Ghia			
estate	6170	6517	
2300GL	5474	5821	
2300 Ghia	6340	6687	
2300GL estate	6066	6413	
2300 Ghia			
estate	6806	7153	
Capri 1300L	4124	—	RTR373

1600L	4208	4555	
1600GL	4525	4872	RTR342
1600S	5095	—	
2000GL	4798	5145	
2000S	4310	—	RI166
2000 Ghia	6059	6406	
3000S	5699	—	
3000 Ghia	—	6829	RI114
Granada 2000L	5624	6047	RI128
2000L estate	6211	—	
2100 diesel	6068	—	
2300L	6226	6649	
2300GL	7365	7788	
2300L estate	6813	7236	
2300GL estate	7713	8136	
2800GL	—	7858	
2800i GLS	8450	—	
2800 Ghia	—	9298	
2800i Ghia	9720	10143	
2800GL estate	—	8182	D8/78
2800i GLS			
estate	8774	—	
2800 Ghia			
estate	—	9630	D8/78
2800i Ghia			
estate	10056	—	

FORD USA (14 dealers)

Mercury			
Monarch Ghia			
(rhd)	—	9428	
Mustang Ghia			
Turbo (lhd)	7879	—	

HONDA (234 dealers)

Civic 1200 3dr	3088	3318	RTR362
1200 5dr	3288	3518	RI155
Accord 3dr	4298	4568	RTR420
4dr	4488	4758	D4/79
Executive DL	—	5588	
Prelude	5088	5358	

JAGUAR-DAIMLER (319 dealers)

Jaguar XJ6 3.4	13401	13401	RTR380
XJ6 4.2	14750	14750	
XJ12 5.3	—	17769	RTR305
XJS	—	19329	RTR394
Daimler			
Sovereign 4.2	15529	15529	
Double-Six	—	18559	
Vanden Plas 4.2	—	20536	
Double-Six			
Vanden Plas	—	23947	

JEEP (78 dealers)

CJ soft top	5653	—	
hard top	6068	—	
Renegade			
soft top	7197	—	
hard top	7570	—	
CJ Golden Eagle	7197	—	
hard top	7570	—	
Cherokee 4dr			
(6-cyl)	9571	9678	
S (6-cyl)	—	10551	
SV8	—	11169	D2/79
Chief V8	—	11488	
Golden Eagle	—	11828	

LADA (195 dealers)

1200	2408	—	RI175
estate	2719	—	

1300ES	2806	—	D4/78
1500 estate	2863	—	
1500ES estate	3227	—	
1600	3078	—	RI173
1600ES	3478	—	RI173
Niva	4399	—	

LANCIA (140 dealers)

1600	5146	—	
2000	5439	5894	RI17
2000ES	5819	6274	
Beta coupé	5113	—	
1600	5828	—	
2000	6304	—	
Beta Spyder			
2000	6851	—	
Beta HPE 1600	6576	—	
2000	7108	—	
Gamma Berlina	8012	—	
Gran Turismo	10011	—	

LAND-ROVER (486 dealers)

Land-Rover	5366	—	
diesel	6091	—	
lwb	6271	—	
lwb (diesel)	6996	—	
lwb 6-cylinder	6461	—	

LOTUS (33 dealers)

Elite 501	14836	15233	
502	15801	—	
503	16387	—	
504	—	16605	
Éclat 520	13134	—	
521	14162	14559	
522	15159	—	
523	15719	—	
524	—	15968	
Esprit 701	14335	—	
702	15030	—	

MASERATI (11 dealers)

Merak SS	19054	—	
Kyalami	25757	—	
Khamsin	28248	—	

MAZDA (249 dealers)

1000 hatchback	3030	—	
1300 hatchback	3456	—	D4/78
1300 hatchback			
5dr	3616	—	RTR424
1.4 Special			
hatchback	3829	—	
1400 hatch 5dr	—	3956	
1400 estate	3829	—	D5/79
Montrose			
1600GL	4254	—	
GLS	4521	—	
2000GLS	4840	5160	D23/79
GLS coupé	5319	—	
2000 estate	5486	5811	
RX-7	8705	—	

MERCEDES-BENZ (98 dealers)

200	7928	—	
200D	8104	—	
230	—	9070	
230C	—	11057	
240D	9086	9682	
240D lwb	14199	14639	
240TD estate	10586	10586	
250	—	10490	
250T	—	11864	
250 lwb	—	14199	
300D	—	11302	

280E	—	12507	D4/79
280SE	—	14614	
280CE	—	13581	
280TE estate	—	13993	
350SE	—	16996	
350SL	—	16825	
450SE	—	18295	
450SEL	—	19317	
450SL	—	17976	
450SLC	—	21143	
450SEL 6.9	—	30632	

MORGAN (18 dealers)

4/4 1600	5167	—	
4-str	5684	—	
Plus 8	7547	—	

MG (1850 dealers)

MG Midget	3740	—	
MGB Sports	4985	—	RTR243
MGB GT	5669	—	D13/79

OPEL (237 dealers)

Kadett L 2dr	3463	—	
L 4dr	3603	—	
L 3dr estate	3866	—	
LS 2dr	3677	—	
LS 4dr	3818	—	
LS 3dr	3778	—	
LS 5dr	3920	—	
LS 3dr estate	4143	—	
LS 5dr estate	4284	—	
GL 4dr	4274	—	
GL 5dr	4374	—	
GL 5dr estate	4673	—	
Berlina 4dr	4727	—	
Berlina 5dr	4827	—	
SR	4628	—	
Ascona	4942	—	
4dr	3953	—	
1.6GL	4394	4811	
2.0GL	4614	5031	
2.0 Berlina	5043	5460	
Manta 2.0			
Berlinetta			
hatchback	5759	6176	
coupé	5630	6047	RTR407
Rekord			
4dr saloon	5521	5965	
Berlina	5809	6253	
Berlina HL	6676	7120	
estate GL	6251	6695	
GL diesel	6544	6988	
estate DL			
diesel	7057	7501	
Senator 2.8S	8760	9309	
Senator	—	11497	
Monza coupé	11807	11807	

PANTHER (35 de Ville, 3 Lima dealers)

J72 4.2	24135	24558	
de Ville 5.3			
saloon	—	58390	
convertible	—	72355	
Lima	8390	8813	
Lima Turbo	11090	—	

PEUGEOT (262 dealers)

104GL	3140	—	RTR406
104ZL	3118	—	
104SL	3497	—	RTR406
104ZS	3664	—	RI146
104S	3970	—	
304GL estate	3783	—	RTR386
304SL estate	4070	—	
305GL	3958	—	D9/78

calibrated vessel to measure the Suzukis' residual fuel. Unable to buy one on a Sunday, the rider returned with—a kitchen measuring flask...

BP's recent petrol-stretching event also had its embarrassing moment—a fuelling error that gave a Colt 1400GLX an amazing 61.36mpg.

After protests and deliberations behind closed doors, the Colt was subsequently removed from the list of class awards—more than two hours after Mr John Moore, Under-Secretary of State for Energy, was to have presented the prizes.

Mr Moore, meanwhile, had left for another appointment...

Chip cutter

EVERYONE KNOWS that automatics use more fuel than manuals—but, in a few years' time, even the most-

convinced critics may have to change their opinion. Their views, and ours, will be forcibly revised by the new silicon-chips-with-everything technology.

Lucas, for example, already has a micro-processor-controlled fuel-injection system, and next on the agenda will be the electronic control of carburettors to bring many of the benefits of fuel-injection systems to cheaper cars.

Micro processors will also be used to control continuously-variable automatic transmission systems (the DAF auto-box, for example), which allow engines to run at their most economical speeds and loads.

Lucas's work is well advanced, and its engineers are expecting fuel-economy gains of 20% from the easy-to-drive automatics. Add the

benefits of 'engine management' electronic control, and total fuel savings of 40% over conventional systems could be possible.

Ice or water?

WERE YOU caught last winter with a de-icing aerosol that only added to the mess on the windscreen? If so, you were one more victim of cut-price marketing, for the water content of some de-icing brands has been steadily rising—up to 40% of the stuff, mixed-in with the usual brew of iso-propyl alcohol and glycol ice-breaking chemicals.

Halfords, for one, noted the complaints and asked automotive chemical specialist Plus-Gas to formulate a super de-icer that would catch no one napping in the winter of 1979–1980. The result is Severe

Winter De-icer—retailing at 49p alongside Halfords' Iceway brand (containing 20% water, like most reputable brands)—that has no water in it at all. The super stuff is a concentrated mixture of alcohol, glycol and corrosion inhibitor, expelled from the can by carbon-dioxide gas that won't give up the ghost in arctic temperatures.

Halfords isn't alone in its move: Simoniz abandoned de-icers in 1966, when the cut-price war was hotting up. Now it's back with 60p Icemaster, which, like the Plus-Gas formula, has no water.

Cruiser class

ANYONE who has driven far along a motorway at a constant speed can confirm that Mr Average is a far-from-steady type. A graph of his

305GR	4284	—	D9/78
305SR	4668	—	R1162
305GRD (diesel)	4957	—	D19/79
504	4775	5347	R1174
504 estate	5350	—	—
504 diesel	5479	—	R1125
504 diesel estate	6023	—	—
504GL	5491	6063	R1159
504GL estate	5957	6529	—
504GL diesel	6282	—	RTR425
504TI	6017	6589	RTR358
504 Family	5996	6568	—
504 Family diesel estate	6787	—	—
505GR	5940	6512	—
SR	6409	6981	—
TI	6509	7081	—
STI	6979	7551	—
GRD	6690	—	—
SRD	7159	—	—
604SL	8276	8846	RTR391
604TI	9417	9828	R1167

POLSKI FIAT (113 dealers)			
125P	2498	—	RTR379
estate	2860	—	—
Polonez	3319	—	—

PONTIAC (5 dealers)			
Firebird	—	—	—
Trans-Am	—	9864	—

PORSCHE (18 dealers)			
924	9276	9755	D7/78
924 Lux	9755	10133	—
924 Turbo	13802	—	—
911 SC (coupé or targa)	16282	—	—
911 SC (sport coupé or targa)	17527	—	—
928	21900	21900	—
928S	25424	25424	—
Turbo	28123	28123	—

PORTARO (25 dealers)			
Pampas 250D	6660	—	—
250DL	7020	—	—
250DPU	7151	—	—
250DP	7288	—	—

RELIANT (260 dealers)			
Robin 850	2600	—	—
estate	2838	—	—
Super Robin 850	2993	—	—
estate	3161	—	—
Kitten DL	3248	—	D21/79
DL estate	3496	—	—
Scimitar GTE	9500	9500	RTR303

RENAULT (447 dealers)			
4	2976	—	RTR364
4TL	3020	—	RTR364
5	3012	—	—
5TL	3390	—	D3/78
5GTL 3dr	3569	—	R1143
5dr	3723	—	RTR370
5TS	3966	—	—
5 auto	—	4040	—
5 Gordini	5053	—	—
12TL	3865	—	RTR385
estate	4306	—	RTR374
14TL	3812	—	RTR414
14GTL	3943	—	—
14TS	4418	—	D6/78
18TL	4059	—	—
estate	4433	—	—

18TS	4459	—	D15/79
estate	4863	5188	—
18GTL	4672	—	—
18GTS	5124	—	—
18 auto	—	5162	—
20TL	5464	—	—
20LS	6021	6346	RTR409
20TS	6586	6911	—
30TS	7864	8189	D12/78
30TX	9277	9602	R1134

ROLLS-ROYCE (78 dealers)			
Silver Shadow II	—	36824	RTR312
Silver Wraith II	—	43353	—
Corniche	—	53494	—
Convertible	—	56808	—
Camargue	—	65142	—

ROVER-TRIUMPH (950 dealers)			
Rover 2300	6526	6944	D8/78
2600	7545	7775	—
3500	9196	9424	RTR428
V8S	10841	11071	—
Range Rover 3.5	12538	—	D2/79
Triumph Spitfire	4200	—	—
hardtop	4356	—	—
Dolomite 1300	3968	—	—
1500	4236	4651	—
1500HL	4693	5108	—
1850HL	5294	5709	—
Sprint	6424	6577	—
TR7	5669	5937	—

SAAB (190 dealers)			
99GL 2dr	5292	—	—
99GL 4dr	5762	6262	RTR419
99 2dr Turbo	7877	—	—
900GL 3dr	6477	—	—
900GLS 3dr	6767	7322	—
900GLS 5dr	7047	7677	—
900EMS 3dr	7847	—	—
900GLE 5dr	—	8682	—
Turbo 3dr	10037	—	—
Turbo 5dr	10437	—	—

SKODA (285 dealers)			
S110R coupé	2274	—	—
105S	2115	—	—
105L	2221	—	D1/79
120L	2328	—	—
120LS	2693	—	—

SPARTAN (0 dealers)			
Sports 2dr	4790	—	—
2 + 2	5145	—	—

SUBARU (80 dealers)			
1600DL 2dr	3313	—	—
4dr	3462	3873	D6/78
Custom 4dr	3649	—	—
coupé	3325	—	—
GFT	3861	—	—
GLF	4123	—	—
4wd	5199	—	—
DL estate	3687	—	—
4wd estate	4578	—	D2/79

SUZUKI (23 dealers)			
SC100	2550	—	—
LJ80 4wd	3350	—	—
LJ80V 4wd	3800	—	—

TALBOT (650 dealers)			
Sunbeam 1.0LS	3073	—	R1164

1.0GL	3355	—	—
1.3LS	3313	3685	—
1.3GL	3596	3968	—
1.6GL	3743	4115	D6/78
1.6GLS	4250	4622	—
1.6TI	4553	—	—
Lotus	7120	—	—
Avenger 1.3LS	3444	3816	D9/78
1.3GL	3914	4286	—
1.3LS estate	3833	4205	—
1.3GL estate	4327	4699	—
1.6LS	3576	3948	—
1.6GL	4046	4418	RTR405
1.6GLS	4418	4790	RTR339(a)
1.6LS estate	3965	4337	—
1.6GL estate	4459	5045	—
Horizon LS (1118cc)	3440	—	—
LS (1294cc)	3597	—	—
GL (1118cc)	3921	—	D5/79
GL (1294cc)	4078	—	—
GLS (1294cc)	4470	—	—
SX	—	5070	—
2litre	5086	5425	RTR308
Alpine LS (1294cc)	3992	—	R1151
LS (1442cc)	4176	—	—
GL (1294cc)	4408	—	—
GL (1442cc)	4678	—	—
GLS (1442cc)	5352	—	RTR381
Matra Rancho	6436	—	RTR381

TOYOTA (230 dealers)			
Starlet GL 3dr	3179	—	D3/79
GL 5dr	3276	—	D3/79
1200 3dr	3408	—	—
1200 5dr	3510	—	RTR399
Corolla	—	—	—
30-1200DL 2dr	3144	—	—
1200 DL 4dr	3263	3469	—
estate	3531	—	—
1600 Liftback	3915	—	—
Carina 1600DL	3976	4269	D10/78
estate	4277	—	—
Celica 1600ST	—	—	—
coupé	4465	—	—
2000ST	—	—	—
Liftback	4858	—	RTR423
2000XT	—	—	—
Liftback	5598	5795	—
2000GT	—	—	—
Liftback	5903	—	—
Cressida	—	—	—
2000DL	4674	4985	—
estate	5026	5161	—
Crown 2600	—	—	—
Super	—	8126	—
Corona 1800	—	—	—
Liftback	5404	5604	—

TVR (26 dealers)			
3000M	8196	—	—
convertible	8931	—	—
Taimar	9185	—	D7/78
Turbo	12196	—	—
convertible	12913	—	—
Taimar Turbo	13185	—	—

VAUXHALL (650 dealers)			
Chevette E	3101	—	—
E 3dr	3149	—	—
E 4dr	3277	—	—
L 2dr	3389	—	—
L 3dr	3437	—	—

L 4dr	3515	—	RTR396
L estate	3825	—	—
GL 3dr	3807	—	D3/79
GL 4dr	3885	—	—
2300HS 3dr	6119	—	—
Viva E	3052	—	RTR378
E 4dr	3174	—	—
1300L 2dr	3331	—	—
L 4dr	3453	—	—
L estate	3699	—	—
GLS estate	4131	—	—
GLS 2dr	3762	—	—
GLS 4dr	3884	—	—
1800GLS 4dr	4084	4419	—
Cavalier 1300L	3837	—	D9/78
1300L 4dr	3962	—	D9/78
1600L 2dr	4043	4473	RTR382
1600L 4dr	4169	4599	R1163(a)
GL 4dr	4631	5061	—
Sports hatch	4948	5378	—
GLS sports hatch	5410	5840	—
2000GL 4dr	4874	5304	R1152
GLS 4dr	5337	5767	—
GLS sports hatch	5653	6083	—
Carlton 2000	5807	6264	D12/78
estate 5dr	6377	6834	—
Royale	9891	9891	D24/79
coupe	10249	10249	—

VOLKSWAGEN (340 dealers)			
Polo N900 3dr	3065	—	RTR408
L900 3dr	3366	—	RTR408
GLS 1100 3dr	3709	—	—
Derby	—	—	—
S1100 2dr	3221	—	—
LS 1100 2dr	3561	—	D3/79
GLS 1300 2dr	3906	—	R1168
Golf N 1100 3dr	3379	—	—
L1100 5dr	3820	—	—
LD (diesel)	—	—	—
1500 5dr	4591	—	R1160
LS 1300 3dr	3996	—	—
GLS 1300 5dr	4433	—	—
GLS 1460 5dr	—	4775	D6/78
GTi 1600 3dr	5256	—	—
Passat LS 1600	4904	5220	RTR388
GLS 1600 5dr	5312	5628	R1165
LS estate	5189	5505	—
GLS estate	5652	5968	—
LD estate (diesel)	5581	5897	—
Scirocco GLS	—	—	—
1600 coupé	5528	5893	D6/79
GLi	6425	—	—
Storm	6893	—	—

VOLVO (235 dealers)			
343DL	4115	4282	D10/78
SR	4417	4581	
244DL	6146	6626	RTR426
SR	6540	7018	
244GL + o/d.	7530	7889	RTR426
244GLE	8147	8535	
245DL estate	6887	7364	RTR368
245GLE estate	7601	7961	
245GLE estate	8261	8623	
264GL	8707	9067	
264GLE	9857	10146	RTR395
265GL estate	8864	9224	
265GLE estate	9660	10019	
262 coupé	—	14438	

speed pattern would look like a saw's blade—as you'll know when you've been overtaken several times by the same car.

It's this fact of life that can make a cruise-control device an economy device, too. In theory, cruise controls can do nothing that a driver cannot do for himself, but in practice they can do a better job.

The latest car to be offered with a cruise control is the leading model in the Audi range, the 100CD. By operating a switch on a steering-column stalk, the car will hold its speed regardless of inclines or wind. To override the system, just touch the brake or the accelerator.

Owners of up-market 100CDs are unlikely to be much interested by the thought of saving pennies on their petrol bills, so Audi is stressing that the system means more-relaxed—and safer—motorway driving.

Exercise book

INSTEAD OF fretting in a traffic queue, why not use the time to keep alert at the wheel? Now, there's a programme of exercises that can be carried out while you're waiting—and you don't have to move from your seat...

Curl and straighten your toes (10 times per foot). Then flex your ankles up and down and from side to side, and finish by rotating your feet clockwise and anti-clockwise.

Next, bend your knees and then lift your legs from the seat cushion and press them down again. Clasp your hands at chest height and, without letting go, try to pull them apart and push them together. Roll your head around in both directions, then shrug your shoulders and rotate them forwards and backwards.

The exercises are in the *AA Book of Driving*—the most comprehensive work of its kind ever published, and a must for all motorists. It costs £8.95 and is available at booksellers from the end of January. AA members can buy it for £7.95 at AA retail outlets on production of their cards.

Close to the edge

ONE IN SIX motorway accidents is caused, we're told, by tyre failure,

A BRITISH invention that's being ignored by European car builders has won a multi-million-pound order from General Motors.

Lucas CAV's Microjector, hailed as a breakthrough in diesel-fuel injection, is much smaller than a conventional injector, has a service life of at least 50,000 miles, and needs no fuel-return pipes, which simplifies installation.

GM plans to build up to 300,000 diesels in 1980, making the world's largest producer of petrol cars a world leader in diesels, too.

and motorists have a 50/50 chance of getting a puncture each year.

Safety tyres and special wheels combat these unfavourable odds, but the big snag has always been price. Now, a British company has come up with a device that's both effective and cheap.

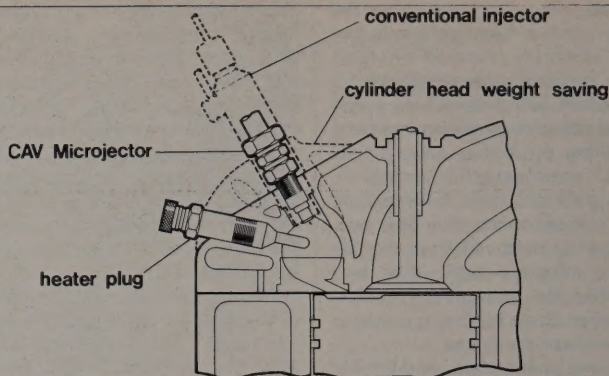
Faced with a sudden blow-out, most drivers take corrective action

by steering against the car's tendency to run off the road. The snag is that swinging the steering wheel can dislodge the tyre's bead from the flange of the wheel, allowing it to slide into the rim well. And when that happens, the tyre can fly off.

The RoSafe safety wheel avoids this danger by filling its well after the tyre is fitted. The new tyre is

deflated and squeezed into the side of the wheel-rim while special well inserts are strapped in place, then it springs back, ready for inflation.

RoSafe wheels are suitable only for radial-ply, tubeless tyres, but that covers the vast majority of European cars made today. So far, inserts are available for BL, Bond, Bristol, Chrysler, Ford, Opel, Reliant,

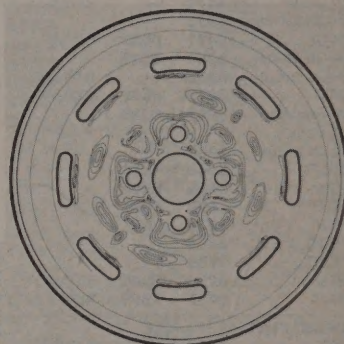


THE ROVER-TRIUMPH division of BL Cars is using an advanced method of metal-fatigue prediction to improve the reliability of its components. The technique, pioneered by the aircraft industry, is 'photo-elastics'.

A special resin coating that can be bonded to all types of car parts, from complete engines down to nuts and bolts, gives the car-scientists a visual rendition of stress and strain—seen in a whirlpool of colours—see right.

A computer analyses the results for any necessary design changes to improve the life of components already in production. Most of BL's effort, however, is being concentrated on prototype cars still on the secret list.

Photo-elastic analysis not only enables the strengthening of weak links but also the reduction of surplus metal—and that means better mpg.



select the ride you want with the new WOODHEAD HEAVY DUTY ADJUSTABLE SHOCK ABSORBERS

Select your own ride characteristics with Woodhead Heavy Duty Adjustable Shock Absorbers. Easy to adjust and install, the units have infinitely variable adjustment (between min. and max. damping positions) enabling you to select the ride and handling characteristics.

Adjustment and installation details in each carton.
Sold only in pairs.

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Please send me further details of Woodhead Heavy Duty
Adjustables and address of my nearest stockist.

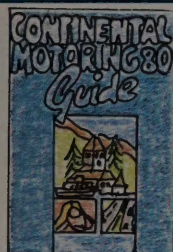
Name _____ Address _____
Make/Model/Year of car _____



WOODHEAD SHOCK ABSORBERS
the thoroughbreds



DRIVE DIRECTORY HOLIDAY IDEAS FOR 1980



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available from leading newsagents. Or send cheque/PO for 45p for your copy (post free) from DOVER HARBOUR BOARD, HARBOUR HOUSE, DOVER, KENT.

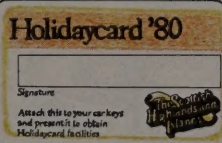
Go Dutch this year with a **BOTEL CRUISE** through Holland. An 8-day cruise sailing along the picturesque Dutch waterways during April and May shows you spring at its loveliest. Discover all that Holland has to offer: gorgeous bulbfields, medieval and Roman cities, quaint villages and flower markets, and see the cheese-making centre of Gouda. Your floating hotel sails only by day and at a leisurely pace. Relax on the sundeck or in your air-conditioned cabin and watch the ever-changing scenery slip past. All cabins have hot and cold water and shaver point; some have their own bathroom. Enjoy attractive meals served by the friendly, English-speaking Dutch staff in the wide-windowed dining room. *No hidden extras:* the price of your cruise includes 1st-class rail/boat/coach, London-Amsterdam return, plus a variety of fascinating excursions. 8-day cruises to Holland and the Bulbfields £268. Also 8- and 15-day Rhine cruises from £328 and £570. Brochure **No. 3**.



Getaway to WALES this year—it's a world of a difference right on your doorstep. And such great value for money, especially if you stay at a comfortable seaside hotel or go self-catering. The children will love our endless beaches. All along the coast you'll find quiet headlands, popular resorts and a host of attractions. Wherever you stay, you'll not be far from green hills and rugged mountains. Our new Wales brochure is full of information on family resorts, out-of-the-way places, what to see and do, and lots of easy-to-book 'package' holidays. Send for your free copy now by asking for brochure **No. 5**.



Sail to the Continent on **NORTH SEA FERRIES** and you're laughing. Why suffer the tiring drive south to the Channel? Unwind on **NORTH SEA FERRIES** from Hull to Rotterdam (Europoort) or Zeebrugge. For northern motorists Hull is easy to reach, with excellent road links to the M62 leading to the Port. Once aboard, start with a 5-course dinner, it's included in your fare; then relax in comfortable bars and lounges or watch colour TV. Alternatively, have a flutter in the games' room or take to the dance floor. There's a duty-free shop, too. Sleeping accommodation is provided and when you finally retire you still have early-morning tea and either English or Continental breakfast to look forward to—again at no extra cost. Arrive refreshed and head for your holiday destination on easy access roads, with good links to the Continental motorway network. This year sleep-easy overnight, any night with **NORTH SEA FERRIES**. Your holiday starts the moment you step aboard. Brochure **No. 7**.



Visit the **SCOTTISH HIGHLANDS AND ISLANDS** in the freshness of spring or the blaze of autumn—and get savings guaranteed.

A free **HOLIDAYCARD** gets you special low rates at selected hotels in the area. And however far in advance you decide to go, you know what it will cost—because your **HOLIDAYCARD** fixes the price. What's more, **HOLIDAYCARD** entitles you to 10% discount on purchases over £1 in selected shops—and up to 50%

discount at tourist attractions! **HOLIDAYCARD** is valid from 1 March to 17 May, and 13 September to 30 November 1980—and comes complete with a free touring guide and hotel directory, to tell you exactly where you can use it. Send for free details by asking for brochure **No. 28**.

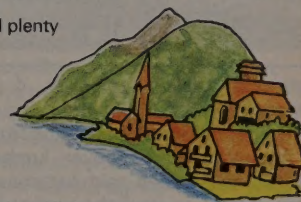
Take a clean break this summer in beautiful unspoiled AUSTRIA and breathe in fresh clean air, as clear as the sparkling streams and emerald lakes. Stay at a fascinating village made picturesque by wall paintings, where you can hear zithers, violins and brass bands, and maybe end the day with traditional folk songs and dancing.

Visit the great historic towns, with their art treasures, music festivals and theatres. And explore fairy-tale castles and magnificent churches, set amid rolling pastures and majestic mountains.

Or you can swim, sail, walk or climb—you'll find plenty of exercise in Austria, too. In fact, the longer your visit the more you'll find to enjoy.

Whatever you do, wherever you stay, you're sure of a marvellously warm welcome because the Austrians love visitors.

For more details of holidays in Austria ask for brochure **No. 4**.



Go as you please in IRELAND with **RYANS HOLIDAYS**. Bring your own car and explore Ireland on value-packed Ryans Holidays, from £62 per person (two travelling) during January-March, and £72 per person in April and May.

The holiday includes six night's accommodation with full breakfast at any combination of Ryans Group-A Hotels in Killarney, Limerick, Galway and Sligo. There is a choice of travel on specific days by B & I Line or Sealink.

Or you can travel by air from London. With a self-drive car on arrival, the cost for six nights is £121 per person in January-March, and £136 per person in April and May.

The cost is less from other UK airports. For details of a holiday arranged by experts, send for our 1980 Value Holiday Brochure by asking for brochure **No. 6**.



Enjoy the excitement of a tour and the relaxation of a cruise on a **BOTEL CRUISE** through the heart of Europe. Your floating hotel winds along the sheltered, sunlit Rhine Valley, visiting the four fairytale countries of the Continent. Bask on the large sundeck and watch the superb, ever-changing scenery, or relax in your air-conditioned cabin with its outward-facing windows. Many cabins have their own fully-equipped bathroom. Tempting meals are served in the panoramic restaurant and English is spoken by the friendly Dutch staff. You can also visit famous cities—there's ample time ashore for coach trips, sightseeing and shopping—sample nightlife and wine-tasting in fascinating towns and romantic villages. Enjoy all the amenities of a hotel afloat. 8- and 15-day cruises from £328 and £570. Also 8-day cruises to Holland and the Bulbfields from £268. **Cornelder's Rhine Cruises No. 8**.



Rolls-Royce, Triumph and Vauxhall cars. RoSafe will be distributed by National Tyre Services.

On all fours

WHEN THE GOING gets really rough, with churned-up mud or drifting snow, only four-wheel-drive vehicles get through. The market for them in Britain is small, but for some farmers, country vets or campers, nothing else will do.

Now, Japanese maker Subaru can supply these demanding drivers with the only four-wheel-drive saloon available here (below)—a

carpeted, cloth-seated car that doesn't look at all like the sort of vehicle for welly-booted drivers.

Fitted with a 1600cc flat-four, all-aluminium engine, the new off-roader looks vastly different from the utilitarian Subaru that DRIVE tested last year. On-road (and off-road) cost is £5199.

For the rest of us who don't need the complexities or expense of four-wheel-drive, Subaru is also importing the 1600GLF saloon, with a five-speed gearbox and high standard of equipment. At £4123, it competes well with home rivals.



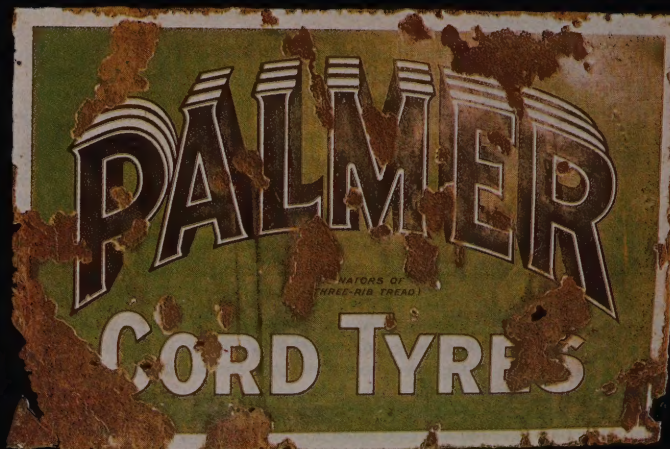
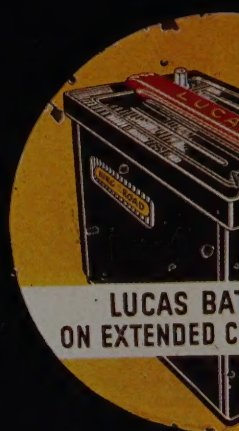
EVERY motor manufacturer, it seems, goes through a passing affair with battery power. Right now, it's sober General Motors that's swooning over the possibilities of recharging from the mains every night.

Anyone who has ever lumbered behind a milk float will know that conventional lead-acid batteries are relatively inefficient: you need about a ton of them to store the current for a day's lethargic driving.

GM reckons to be on the way to beating that problem with the zinc-nickel battery, which has more than twice the storage capacity of a conventional wet-cell. A 100-mile range and a 50mph top speed seem to be on the cards.

As can be seen here, the new battery is also half the size of an equally powerful lead-acid pack, although it still takes up a lot of passenger room.

GM admits that there is more development to be done, but expects to have electric cars in production by the mid-1980s. Then, however, the question will be whether motorists will mind recharging every 100 miles.



America takes 5

RENAULT is finalising arrangements with American Motors (the Jeep maker) to put the Renault 5 into US production. Initially, it will use a lot of French-made parts, but the percentage of locally produced items will rise gradually.

The first American Renaults will hit the highways in a little over two years' time. (DRIVE's Five—page 15.)

Weighing anchors

IN A BID to help vehicle manufacturers' weight-reduction plans for the energy-saving cars of the 1980s, Lucas Girling has developed a range

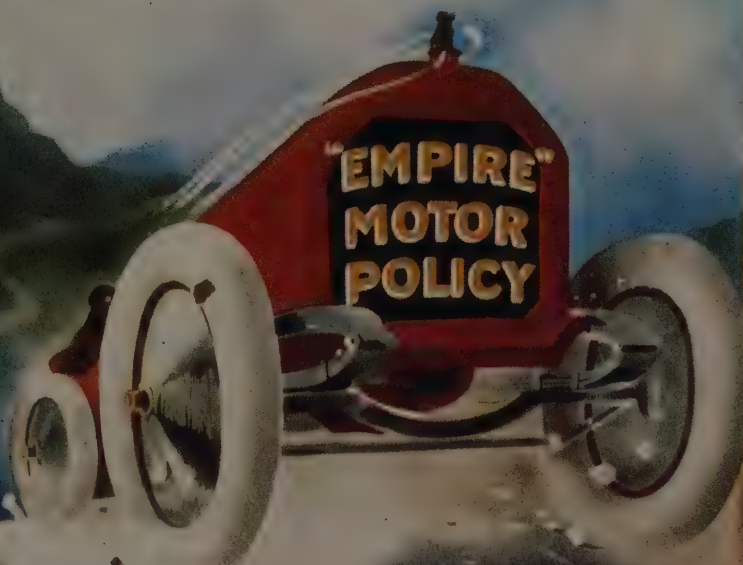


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EAGLE STAR 6

BRITISH DOMINIONS



INSTANT FREE TOWING REPAIRS

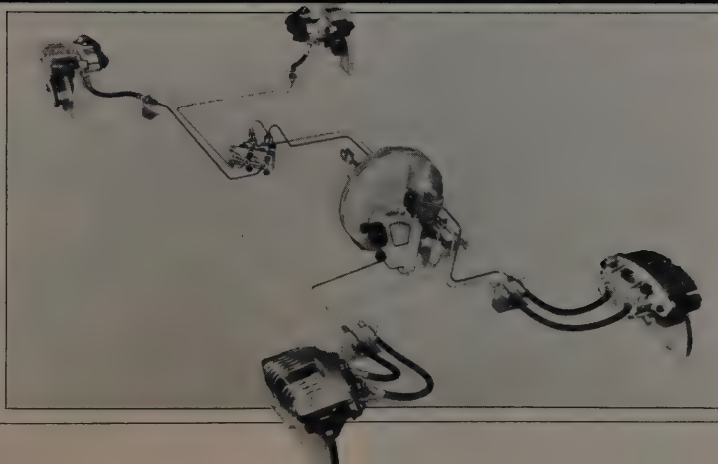
ASSETS

EXCEED

£17,000,000

of lightweight braking systems that use some novel materials.

The range consists of a lighter yet more-rigid vacuum booster, the shell of which is formed from light steel, aluminium and plastic. There's also a range of alloy master cylinders that are lighter and shorter, plus aluminium-bodied 'opposed piston' and single-sided calipers; these have finned bodies that, coupled with the excellent heat-conducting properties of aluminium, ensure efficient heat dissipation. A selection of aluminium pressure-sensing and control valves completes the new design.



Signs of the times

WITHOUT giving away your age, how many of these echoes from motoring's past can you recall seeing on garage walls, shopfronts and railway stations?

As our towns and villages were redeveloped, most of these once-common enamel masterpieces were thrown on to scrapheaps. But the tireless efforts of two Newcastle-on-Tyne enthusiasts, Chris Bagley, 33, and Andrew Moreley, 32, have ensured the salvation of a select few.

Bagley and Moreley began snapping-up 'street jewellery'—their description for nostalgic advertising pieces—seven years ago. Recently, they pooled their respective 'finds' into what is probably the best collection in the country.

All but 50 of their 200 examples are now on show in a travelling exhibition that, in the next few months, will be visiting Dorset and Hampshire: Christchurch (7 Jan–9 Feb), Basingstoke (16 Feb–15 March), Alton (22 March–19 April) and Havant (26 April–24 May). Then they're off on a sentimental journey to the Netherlands and the US. On their return, the enamel ads, which reached peak production between 1890 and 1920, will move into a permanent home at the Beamish open-air industrial museum, near Stanely, Co Durham.

Says Bagley, a partner in the Newcastle-based firm, Badge Group Design: 'I've lost count of the miles I've travelled to piece together my part of the collection. Once, I had to paint a whole shopfront before the owner would agree to part with a tobacco advertisement. All in all, it was hard work... but worth it.'

Protection business

IN THE BACK of a limousine, the world's top politicians and industrialists can be sitting targets for the well-equipped urban guerilla, whose high-velocity weapons can penetrate conventional steel armour. Crayford Engineering, the Kent-based coach-builders, believes it has found the answer in methods once used to protect American helicopters from ground attack in Vietnam.

For security reasons, the firm won't say exactly what it does, but it claims that 'new materials' are capable of resisting close-range attack from 7.62mm rifles, fragmentation mines, grenades and gas. Armoured glass, bullet-resistant tyres, radar sensors and an explosion-proof fuel tank can be included in the specification.

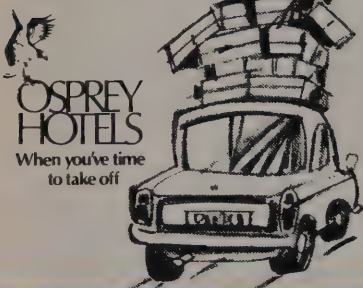
Crayford will carry out the conversion on almost any big car, but prefers to use the Mercedes 450 SEL. Its spokesman explains: 'The Mercedes chassis is built like a lorry, so we don't have to add a lot of strengthening. This means we can

HOLIDAY IDEAS FOR 1980

TOUR 'N' STAY. You can base yourself at one Osprey Hotel and venture forth for a different trip each day. Or you can book your family and yourself into a number of different Osprey Hotels over several nights. There are 18 Osprey Hotels in Scotland.

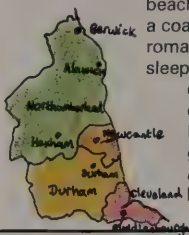
Tariff: Six nights or more in any one hotel or different hotels, dinner, bed and breakfast. (Free for children under four who share their parent's bedroom.)

Do you know? Osprey have a special low mid-week rate, with dinner, bed and breakfast included. Ask for brochure No. 9 or contact CENTRAL RESERVATION OFFICE 041-552 7788 Elmbank Chambers, 289 Bath Street, Glasgow G2 4JY.



NORTHUMBRIA. Get away to it all! Cleveland, Durham, Northumberland and Tyne and Wear offer visitors a choice of activities no other area can match.

The variety of the scenery leaves visitors wide-eyed: golden beaches stretch along a coastline guarded by romantic castles; sleepy villages nestle in dales lined by quiet country roads. Northumbria, has got it all except crowds. Ask for brochure No. 10.



CHARACTER COTTAGES are specialised agents for furnished holiday cottages, houses, apartments and bungalows in England and Wales—period or modern and available all year round. Send now for a free colour brochure which highlights over 300 of the properties available, by asking for brochure No. 11.



Dine and dance your way to Germany this year! PRINS FERRIES sail direct from Harwich to Hamburg or Bremerhaven every day.

The two luxurious ships Prins Hamlet and Prins Oberon make the crossing to Germany a holiday in itself.

Enjoy sampling delicious Continental food and drink in the comfortable restaurants, cafeterias and bars, visit the cinema or dance until 2am. Then relax into a sound night's sleep in your modern air-conditioned cabin.

Cars are welcome aboard, too.

Prins also have a selection of superb holidays to some of the most picturesque cities in Northern Europe.



Details of timetables, fares, holidays and accommodation are in the PRINS FERRIES brochure. Ask for brochure No. 12.

With summer holidays still a long way off, here's news of a top value break that you can enjoy *now*.

From as little as £12.50 per person per night, you can stay for 2 nights in a friendly Crest Hotel. Between now and April 27th **Crest Welcome Breaks** are available on any Friday, Saturday and Sunday nights at over 30 EuroCrest Hotels, Crest Motels and CrestRest Hotels in the UK. Included in the price are accommodation, full breakfast and table d'hôte dinner with coffee, service and VAT. You certainly get a lot for a little on a **Crest Welcome Break**. For further information, ask for brochure No. 13.

Name and Address

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MAIL ORDER PROTECTION SCHEME

The publishers of this magazine have given to the Director General of Fair Trading an undertaking to refund moneys sent by readers in response to mail order advertisements* placed by mail order traders who fail to supply goods or refund the money and who have become the subject of liquidation or bankruptcy proceedings. These refunds are made voluntarily and this arrangement does not apply to any failure to supply goods advertised in a catalogue or direct mail solicitation.

If a mail order trader fails, readers are advised to lodge a claim with this magazine within 3 months from the date of the appearance of the advertisement. Claims received after 3 months will be considered at the discretion of the publishers.

*For the purpose of this Scheme, mail order advertising is defined as: 'Direct response advertisements, display or postal bargains where cash has to be sent in advance of goods being received'.

Drive Directory Coupons

It costs you absolutely nothing to obtain further information on the items in Drive Directory. All you have to do is quote the brochure numbers (these are in **bold** type at the end of each Directory) in the appropriate box on the coupon left. Then **PRINT** your name and address and cut out the number of coupons you require and put them in a sealed envelope. It requires **NO STAMP** because **Drive is paying the postage** for you. Send the envelope with enclosures to this address: **Drive Directory, FREEPOST, Basingstoke, Hants, RG21 2EA.** Valid until 30/6/80.

Please ensure each coupon is fully completed for each brochure requested. Complete money form for brochure numbered 1.

MONEY FORM

If you've asked for brochures costing money, write their numbers and prices here and enclose cheque/Postal Order made out to Drive Directory for the total amount.

Quote Brochure No.

Quote Price

.....

TOTAL £ .

Name

Address

keep the cost down to around £75,000 for a complete car.

'So far, we have made 11 vehicles—about half of them going to Arabs. But the people who buy them don't want details revealed.'

For an extra sum, Crayford can add even more high technology to the package, such as anti-hijack door bolts, sirens and a concealed loudspeaker.

The latest British development in weapon detection—the Hostile Fire Indicator—is another 'goody' on offer. This enables the driver or passenger to know instantly from which direction the bullets are coming. Radar detection sensors are fitted on either side of the car and can pick up any missile, irrespective of its velocity, but ignores anything as trivial as sticks and stones, or even rude words.

The information is computer-processed and indicated on a simple compass-face display. For those with plenty of enemies there's even a 'second shot' facility, to locate



two snipers firing simultaneously from different locations.

For the customer who believes only his own eyes, Crayford arranges mock attacks on its £75,000 cars—adding 'rectification costs' (see left) to the customers' final bill . . . !

Seal of Approval

PRODUCTS that have recently earned the AA's Seal of Approval are: Dell Sigma body strip; Lightguard lights reminder; Lumenition and Piranha electronic ignition systems for motor-cycles; the Polco towrope Type 409 (with wooden toggle); and Lacroe car sponges.

Raffle's prize

'ONLY BY altering the attitude and behaviour of drivers shall we ultimately reduce the toll of accidents to an acceptable level.' That was the conclusion of Dr Andrew Raffle, London Transport's chief medical officer, when addressing a recent Institution of Municipal Engineers road-safety seminar in London. But what is an 'acceptable level'?

DRIVE put this question to Dr Raffle, and received an eye-opening reply: 'Four-fifths of the present annual figure. And in my view, it's possible.'

How? 'By making seatbelt-wearing compulsory, adopting Blennerhassett's recommendations on drinking and driving, and by improving road-education in schools.'

Nearly-dry run

THE WORLD'S most economical car is, currently, a 100cc, diesel-engined, three-wheeled 'Mercedes'. The 10ft-long, glass-fibre and aluminium machine trundled over an 8.9-mile course in Germany on less than ½ oz of fuel—equal to an astonishing 2737mpg!

Running on 24in racing-bicycle tyres, the car weighed-in at just 108lb—not so much the car that blows-off others as the car that could be blown away.

Polished performers

FORD ESCORT or Cortina owners with rusting brake discs can now fit special brake pads that contain



two abrasive strips to remove all traces of the red menace.

The pads, made by Don International and sold for £16.84 a set, also help to eliminate brake judder caused by the discs being unevenly

Buying British

I agree with Mr Bissett (DRIVE, November–December)—you should back British products. Certainly, I couldn't be happier with my Austin Princess 1800HL, which I have owned for two years since new. After 21,500 miles, I remain a very satisfied BL owner.

So give BL and the other British producers the backing that they deserve. In my view, their model ranges compare very favourably with the foreign competition.

Wilfred Wilson
Gortnaglush, Dungannon, N Ireland

What is it about British cars that stops people from buying them? Is their standard of finish, performance and looks that much lower than the foreign competition's, or is there a more-logical explanation?

I refuse to accept that new British cars are shoddier and less reliable than overseas models. I have always owned British and have never found the terrible problems that the media always seems to revel in telling about the home car market.

I can foresee the same thing happening to BL Cars as befell the British motorcycle industry. It was not because Japanese motorcycles were better than BSA, Triumph or

Letters

Views to air? Tell DRIVE about your motoring and what it means to you. You can send letters for publication—unstamped—via DRIVE Directory, FREE-POST, AA, Basingstoke, Hampshire RG21 2EA

whatever (ask any owner of a Japanese bike about rusty chrome-work), but because the manufacturers were good at flooding the market. But look at their prices now—I don't think that anybody today would say that foreign bikes or their replacement parts are cheap.

So let's back BL for a change, in the realisation that we are making the same mistake about the quality of British cars as we once did about British motorbikes.

R A Hurdiss
Moreton-in-Marsh, Gloucestershire.
DRIVE's motorcycling correspondent,
David Minton, replies: 'It is not really accurate to say that Japanese bike manufacturers flooded the UK

market. That they succeeded commercially was, I'm afraid, because British and European makers failed to respond to the challenge by producing better bikes. The undoing of BSA-Triumph, apart from labour troubles, was its policy of producing too many models. The outcome was that a number of bikes were subsidised by the more-popular machines in the range—a familiar problem in the car world, too.'

Some years ago, I changed my allegiance from one garage to another, from which I have since bought six cars, the latest being a Talbot Sunbeam 1.6GLS.

This is the best-finished car I have owned in my 45 years on the road. It is also a joy to drive and very comfortable. My fuel consumption has worked out at between 37mpg and 43mpg, while oil consumption has been negligible. In 10,500 miles, the only extra cost has been the replacement of a courtesy-light bulb. Not only that, but the 10,000-mile service set me back just £31.

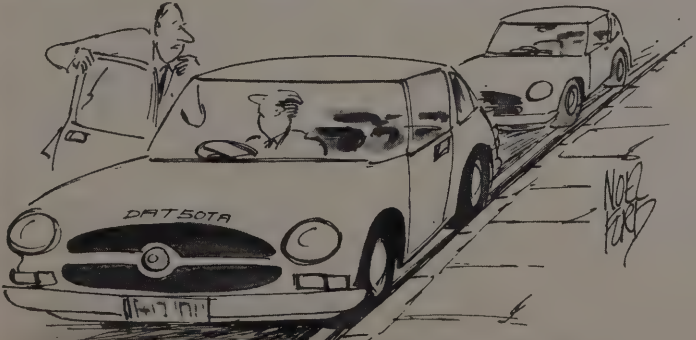
With benefits like these, I'm staying British.
R Wallace Thompson
Eaglescliffe, Stockon-on-Tees,

Patronising

I detect a note of envy on the part of Mr J D Gilchrist (DRIVE, September–October): why shouldn't the garage in question serve regulars only when supplies are low? Perhaps Mr Gilchrist had never visited that forecourt before, but the regular customer will.

What would Mr Gilchrist do if he were the proprietor? Or if he were an account customer and couldn't get petrol because passing motorists had emptied the pumps?

I am an account customer, patronising.
Continued over page.



'Sorry, old chap, but these Japanese cars all look the same to me'

worn, and can usually remove particles of friction materials which might have contaminated the disc.

Roads information

Numbers in parentheses refer to maps in the 1978-1979 edition of the AA Members' Handbook.

BRITAIN

Major roads open Chieveley-

MEET THE CAR that's intended to bring the World Land Speed Record back home to Britain.

Project Thrust is an all-British enterprise involving many major companies, with the big push supplied by a Rolls-Royce engine from a Lightning fighter-jet.

With 15,000lb of thrust on tap,

Beedon A34, 3.5 miles (9); Dovercourt bypass A604, 1.8 miles (20); Redditch, Bromsgrove Highway A448, 1.7 miles (17); Riding Mill-Styford Link A68, 2.5 miles (40); Greenford Road flyover A40, (12); Northolt underpass A40, (12).

OVERSEAS

Austria Bridge across Danube at

the car should reach 650mph. The last Briton to hold the record was Donald Campbell, who in 1964 reached a speed of 403mph in Bluebird; the current record, held by American Gary Gabelich, stands at 631.367mph.



1980

ing one garage only—unless I'm away on holiday. I buy no more than my needs, and never go elsewhere because I value the service. And, being a regular, my supply is assured as much as it can be.

Mrs S Sarel

Hull, Humberside

Inflation trend

After the 1000-mile service of my new Austin Allegro 1300, I checked the tyres and found that the pressures on the rear were 30psi. On consulting the car's handbook, which I received at the time of delivery and which was dated 1978, I read that the recommended pressure for rear tyres is 24psi.

I have since been told that 30psi is the correct figure. Which is right?

Mrs C Ritchie

Edinburgh, Lothian

Austin Morris says that saloon pressures are 26psi front, 24psi rear; 30 psi is used on the rear of heavily laden estates only.

The story of O

I was most surprised to read in Peter Denayer's article that the new O-Series engine has done nothing for the Morris Marina's economy (29mpg) and that, in his opinion, it is worse than the old 1800 B-Series unit (DRIVE, September-October).

That is not my experience. Currently, I run a 1979 Marina 1700L estate but, before this, I had a 1975 1800cc estate. The fuel consumption figures for the old Marina were between 26mpg and 36mpg; the new O-Series is giving me better than

this—29mpg—40mpg. My average consumption with the B-Series was 27.8mpg; the new one has been returning 32.4mpg overall.

To prove the economy of the new engine, we managed 37.3mpg over 970 miles of a holiday in north Wales. That was with myself, wife and two teenagers in the car, plus luggage.

I would be interested to know how one can say that the B is better than the O.

H N W Gardner

Brechin, Angus

Car tester Peter Denayer writes: 'Our findings were based on tests of a car supplied by the manufacturer. We, too, were surprised that it was so heavy on fuel—so much so that we actually repeated the tests with a similar model, also provided for the purpose by BL. We are nonetheless grateful to Mr Gardner for his comments and findings.'

Pretty quick

Having bought a Fiat X1/9 a few months before your road test (DRIVE, July-August), I thought that, in the light of my experience, your report was generally fair. In my book, it's one of the best-value-for-money cars around. But I should like to raise some points of my own.

It is impossible, for example, to drive on sidelights without having the pop-up headlamps raised. The shape of the seats caters strictly for the narrow-shouldered: after several weeks of daily 50-mile return trips, I developed an annoying ache at the base of my spine. Perhaps, at 25, I am just getting old, but the seats are particularly hard in this region. When I avoided using the car for work for

Steyregg open, providing direct link from Linz town centre to road No 3. Felbertauern Road Tunnel toll reduced to S160 return (usually S190 single) until 31 March. Tauern Autobahn toll—single ticket (S200) valid for return journey free of charge until 31 March.

Belgium At Veurne (Furnes), transit traffic between Dunkirk (France) and Oostende is directed via the outskirts of Veurne (Furnes); follow signs 'Dunkerke'. Autoroute A2, 'E5'; in the opposite direction, follow signs 'Dunkerke'. Autoroute A2, near Diest—11 km-long section between Lummen (E39) and Webbekom (N2) open.

France

Road number changes Following the 1974-1978 decentralisation, when many 'N' roads were designated 'D' roads, (when N315 became D915, and N16 became D916), further modifications are taking place; some irregularities may occur during the changeover period, when the same road may have signs showing different numbers. Autoroute A41 toll motorway extended by 7 km from Annecy Nord to Cruseilles

France-Italy Mont Blanc Tunnel

new tolls (in French francs); Cars up to 7ft 6½ in (wheelbase)—F35 7ft 6½ in—8ft 7½ in—F54; 8ft 7½ in—10ft 10 in and cars with caravans—F73; cars over 10ft 10 in—F165; three-axle vehicles—F255; four- or more-axle vehicles—F330.

Germany Autobahn A3 (E5) Deggendorf-Passau motorway extended 7.5 km to complete the Passau western motorway bypass. Autobahn A93, Weiden-Regensburg—14 km section open between Klardorf and Ponholz.

Sweden Gothenburg-Borås, road No 40 now completely reconstructed to motorway standards (with dual- and single-carriageway sections).

Switzerland Zug bypass, N4a—7.5 km-long section between Walterswil and Cham open.

Motorway N12, Bern-Fribourg—Vevey, extended 6.5 km from Corpataux to Avry-devant-Pont.

Yugoslavia Avtocesta A1, E93 Ljubljana-Trieste toll motorway extended 12.5 km from Vrhniko to just outside Ljubljana. Toll charges for 53.5 km from Ljubljana-Postojna-Razdrto: cars up to 6ft 8¾ in (wheelbase) D27; over 6ft 8¾ in—D35; car with caravan or trailer—D46.

a while, the backache disappeared.

I also find that the car suffers from poor acceleration due to a flat-spot at low revs, while the brakes—though acceptable in performance—are very squeaky. In addition, the hub caps are a loose fit and tend to rattle.

Despite these minor niggles, however, I thoroughly enjoy the X1/9. There are faster cars on the market, but fewer with prettier looks, better handling and such an exceptional combination of performance with economy.

Richard Walker

Enfield, Middlesex

Prayer wheels

Reading that Norman St John Stevas, MP, says a prayer before each journey, reminded me that I composed a prayer some years ago when travelling considerable distances on business. I found it most useful in reducing some of the driving tendencies I was beginning to develop—becoming blasé, if you like. I offer it for publication in the hope that it may help others to modify bad driving habits:

'So order it, O Father God, that when this car I drive,

Not only shall I safe return but safely will arrive.

Lead me to drive, O Father God, Thy presence be with me.

That other users of the road from danger will be free.'

S D Holmes

Whitenap, Romsey, Hampshire

Easy does it

My wife and I went to see relatives in Italy last summer—a journey of some 2378 miles which we accom-

plished at an average of 32.9mpg. The car was a 2litre Toyota Cressida, which you put in the 'executive' class of fuel guzzler. Yes, I did say 33mpg—and on 2-star petrol, too.

L H Lee

Wakefield, W Yorkshire.

Peter Denayer writes: 'With respect to Mr Lee, a holiday journey involving this sort of mileage would bring out the best from any car because of the absence of short runs and cold starts. His drive would equate with the kind of mpg that would be expected from quiet, rural motoring.'

Mum's the word

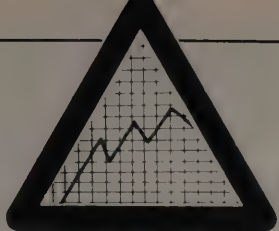
We're writing this to give our wonderful Mum a lovely surprise—and it couldn't be more deserved. Though disabled, she has twice recently helped people hurt in road accidents.

Just a few days after going to the rescue and giving first aid in an accident near her house, she was in action again. We were on our way to Manchester when something went wrong with her car. She called the AA out, and the patrol was about to tow our car away when a dog ran out and caused a crash.

Mum asked the AA patrol to call the police, and then helped to get a little boy out of the damaged car. After making sure that he wasn't hurt, she drove the crashed car to the side of the road to get it out of danger.

Fortunately, no one was hurt in this crash except Mum—who hurt her back, but didn't say anything. She just won't give in, and we're so proud of her.

Sylvia, Avril, Wilfred and Ian Barclay Wrexham, Clwyd



DRIVE INDEX

Nearer and dearer

THOUGH MOTORISTS are driving fewer miles, they are continuing to spend more on petrol. Compared to the last Index, motorists have spent on average £19.36 more on petrol, the total for the year September 1978–August 1979 being £316.31.

The fuel survey also shows that outgoings on servicing and repairs have gone up by £2.91 to £179.52 per owner, while insurance has risen by £1.06 to £56.95. Spending on oil increased by 5p to £9.86, and on accessories by 75p to £14.86. The bad news is summarised by the total running cost for the 12-months, an average of £667.81—120% more than when the Index started in October 1973.

Mileage, on the other hand, has decreased, with the typical motorist driving 93 miles less in July 1979—and 33 miles fewer in August 1979—compared to the corresponding months in the previous year. Thus, this Index's 730-mile monthly average for the year represents a fall of seven miles on the previous index.

In the 12-month period ending August 1978, the average motorist paid out 1.27p per mile less to run his car, and £85.79 less on the total bill, compared with the year ending August 1979.

This difference is explained by two large increases over this period: servicing/repairs costs have increased by £38.63, and petrol by £33.51.

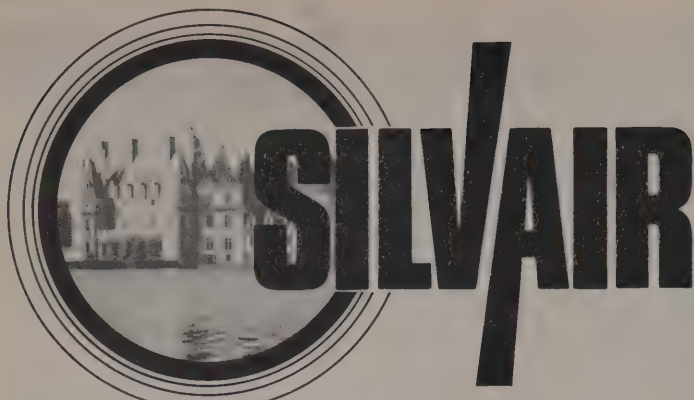
The Datsun Cherry is still the most economical model in the Index, costing 5.19p per mile. Cherry owners successfully kept expenditure on servicing and repairs down to £4.71. The high-mileage, newer Vauxhall Cavalier is second at 5.29p per mile, followed by the Fiat 128 and 124 models at 5.41p.

The Datsun Cherry also tops the fuel consumption league (2.76p per mile), followed this time by the Fiats 128 and 124 (3.01p), Vauxhall Chevette (3.07p) and the Mini 850 (3.10p).

In general, owners of British models spent the most running their cars—7.52p per mile—compared to owners of foreign makes—6.89p. To some extent this is to be expected, as the foreign cars imported into this country are usually newer and smaller than the British models.

COST OF MOTORING: September 1978–August 1979

INDEX Oct 1973 = 100	99	222	226	101	251	177	190	204	220
MONTH-BY-MONTH ANALYSES (all cars) AND ENGINE RATING ANALYSES (post-1969 cars)	Average monthly mileage	Cost per mile (pence)	Petrol	Oil	Servicing repairs	Accessories	Insurance	Other costs	TOTAL
September 1978	798	6.56	23.27	0.84	15.08	0.65	4.45	8.02	52.31
October 1978	807	6.20	24.49	0.64	12.77	0.70	4.58	6.88	50.05
November 1978	784	6.88	24.72	0.54	15.01	0.38	4.60	8.68	53.94
December 1978	649	7.97	23.12	1.70	14.14	0.58	4.60	7.59	51.73
January 1979	579	7.98	19.54	0.40	12.49	2.00	4.61	7.15	46.18
February 1979	644	7.33	22.85	0.71	10.12	0.23	4.72	8.54	47.17
March 1979	686	8.75	24.53	0.70	20.41	2.15	4.79	7.39	59.98
April 1979	771	7.86	25.80	0.85	20.11	2.05	4.80	7.03	60.63
May 1979	733	8.02	27.05	0.92	17.01	1.61	4.86	7.30	58.75
June 1979	746	8.21	31.02	0.84	14.86	2.42	4.96	7.18	61.28
July 1979	720	9.07	34.28	0.87	17.06	1.30	5.06	6.73	65.30
August 1979	839	7.21	35.64	0.85	10.46	0.79	4.92	7.83	60.49
TOTAL (for year)	730	7.63	316.31	9.86	179.52	14.86	56.95	90.32	667.81
–900cc	567	6.54	16.95	0.94	8.92	0.21	4.29	5.76	37.07
901–1100cc	599	7.82	20.19	0.47	13.08	1.18	4.53	7.43	46.87
1101–1300cc	719	7.08	24.69	0.63	12.49	1.19	4.69	7.25	50.94
1301–1500cc	743	7.33	25.37	0.74	14.89	1.59	4.77	7.08	54.44
1501–1700cc	909	7.00	34.43	0.62	13.66	2.07	5.13	7.72	63.63
1701cc +	928	7.39	36.27	1.24	15.76	1.02	6.08	8.23	68.59
MODEL-BY-MODEL ANALYSES (post-1969 cars)									
Austin-Morris Mini 850	513	6.59	15.88	0.30	6.73	0.61	4.09	6.17	33.79
Mini 1000	506	7.52	16.06	0.28	8.93	1.09	4.27	7.43	38.07
1100/1300	556	7.20	18.11	0.80	9.92	0.36	4.30	6.50	39.99
Allegro	793	5.68	25.77	0.61	5.86	0.68	4.71	7.41	45.04
Maxi 1500/1750	758	8.78	29.19	0.66	23.53	0.70	4.81	7.67	66.57
Marina 1300	728	6.71	25.46	0.46	9.47	1.22	4.40	7.85	48.87
Marina 1800	850	8.60	30.47	0.46	27.69	2.04	4.95	7.52	73.13
1800/2200	552	10.95	22.78	1.83	25.97	0.32	3.93	5.62	60.45
Princess	984	7.05	43.97	0.96	10.29	0.00	5.30	8.88	69.40
Chrysler/Talbot Imp	424	8.46	16.96	1.09	7.94	0.00	3.67	6.22	35.88
Avenger	695	8.14	26.59	0.89	16.68	0.63	4.41	7.33	56.52
Hunter 1500/1750	825	8.29	27.07	0.64	27.99	1.00	4.36	7.36	68.43
Datsun Cherry	722	5.19	19.91	0.64	4.71	0.50	5.11	6.59	37.46
Sunny	691	6.31	23.53	0.16	7.65	0.71	5.52	6.08	43.65
Fiat 128/124	681	5.41	20.48	0.47	3.67	0.00	5.42	6.83	36.87
Fiat 500/127	477	7.40	15.23	0.62	9.37	0.00	4.44	5.60	35.27
Ford Escort 1100/Popular	632	8.95	23.07	0.50	21.22	0.51	4.42	6.84	56.55
Escort 1300	757	8.67	29.54	0.49	20.39	3.38	4.78	7.05	65.62
Cortina 1300	831	6.68	31.89	0.81	11.02	0.24	4.25	7.32	55.53
Cortina 1600	1025	6.91	36.31	0.53	17.58	3.75	4.78	7.86	70.82
Cortina 2000	1084	6.32	37.79	0.72	14.49	0.91	6.02	8.58	68.50
Capri 1600	822	6.95	29.20	0.65	10.95	3.26	5.33	7.74	57.13
Granada/Consul	1041	6.92	42.89	0.65	14.44	0.77	6.13	7.17	72.06
Rover 2000/3500	857	9.04	40.96	0.88	22.65	0.28	6.26	6.52	77.55
Triumph Toledo/Dolomite	697	7.81	26.43	0.80	12.03	3.56	4.91	6.65	54.38
Triumph 2000/PI	822	7.97	34.52	0.59	18.02	0.26	5.79	6.35	65.53
Simca 1000/1100	554	8.88	22.87	1.02	13.29	1.30	4.65	6.04	49.17
Vauxhall Viva	671	7.51	21.59	0.83	14.75	0.16	4.42	8.63	50.38
Chevette	868	5.60	26.62	1.34	3.40	4.62	4.48	8.18	48.65
Cavalier	1251	5.29	39.33	0.51	10.45	1.37	5.54	8.94	66.13
VW Beetle	572	7.13	20.15	0.23	8.69	0.00	3.99	7.70	40.76
Golf/Polo	765	5.79	26.04	0.93	4.27	0.25	5.23	7.61	44.34
All Chrysler UK	754	7.65	27.55	0.83	16.22	1.29	4.50	7.30	57.69
Ford	869	7.32	32.31	0.63	16.11	2.11	5.00	7.45	63.60
Leyland	700	7.92	26.00	0.89	15.14	1.12	4.84	7.44	55.44
Vauxhall	815	7.00	27.27	0.97	14.91	1.07	4.66	8.20	57.08
All British	777	7.52	28.34	0.81	15.45	1.45	4.83	7.53	58.41
All Fiat	639	6.71	21.30	0.57	8.84	0.02	5.35	6.75	42.83
Renault	691	7.37	25.64	0.48	12.47	0.12	5.11	7.08	50.91
Simca	554	8.52	22.54	0.74	11.94	0.94	4.78	6.23	47.17
Volvo	686	9.50	33.45	0.76	14.53	0.90	7.28	8.25	65.17
All French	728	7.38	26.07	0.53	13.10	1.75	5.16	7.17	53.79
Italian	639	6.86	22.59	0.54	8.04	0.04	5.72	6.92	43.85
Japanese	792	6.12	25.91	0.70	8.95	0.26	5.88	6.84	48.54
W German	833	6.41	30.23	0.52	8.64	0.63	5.65	7.76	53.43
All Foreign	745	6.89	26.50	0.59	10.47	0.94	5.60	7.17	51.27
Average monthly costs (£) excluding depreciation									



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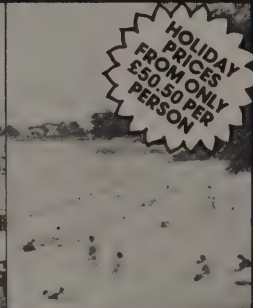
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France's frantic five

The name Gordini will take many Britons back to the days when foreign cars were still something of a novelty, rather than the norm. To 1958, in fact when Renault introduced a sporting version of its Dauphine. Yes, it was tail-happy; yes, it rusted; yes, it was fairly fast—provided you didn't worry too much about where you were going.

So there wouldn't seem to be much percentage in trying to sell a new model on those memories, would there?

Well, the 1980 Gordini has as much in common with the 1958 version as the Renault 5 with the Renault Dauphine—family name only. The 5 has long been a **DRIVE** favourite, and the 5 Gordini is no upstart, boasting about more than it has to give—93bhp is a lot of muscle.

Is this a Gordini for you? **DRIVE**

Renault 5 Gordini

Price £4864. On the road £4836

gave it the chance to clear the family name.

How it goes

It doesn't take long to recognise that the 93bhp, 1397cc power unit of the Gordini is in a high state of tune: it starts from cold easily enough, but idling speed on choke sounds anything but idle, and it can be flighty about firing up again when hot. Not the sort of motor you feel confident about switching off in a traffic queue. It shows an agreeable willingness to trundle along at around 30mph in top, but the engine note seems to be asking all the time to be unbridled.

Wide throttle openings and an open road gives the Gordini driver the chance to sample some

heady acceleration through the gears, tearing past slower-moving traffic with irresistible urge and a busy roar under-bonnet. Our test car had noisy valve gear—not apparent on a second sample—and a deeper, unavoidable boom also sets in around 3500rpm, which disappointingly spoils motorway cruising even before a true 70mph is reached.

Fifth gear is not really high enough to be called a true over-drive—the engine revs at 6000rpm, almost in the tachometer's red band, at its commendable 108mph mean maximum—but its acceleration is not so dramatically impressive as in other gears. Notice, however that the top-gear 40–60mph time is better than its 30–

50mph showing—a good indication of a car that rewards plenty of gear changing.

Bearing in mind the problems of controlling a five-speed gearbox with a lever that is nearly half a car's length away from the box, the Gordini's shift quality is very dependable, if slightly rubbery. Intelligent spring-loading draws the lever to the centre (third/fourth-gear) plane, and, though newcomers sometimes hit the wrong notch at first, they quickly learn not to. The clutch needs to be floored for clunk-free changes, but it is nicely weighted and progressive.

The 1980 Gordini control layout includes a welcome temperature gauge as well as a tachometer, but the 'fruit drop' warning lamps on the 5's new dashboard still do not include one for low fuel level. It's now less easy to



work the wiper stalk by mistake, and the daytime headlamp flashing provision works with the familiar squeeze of the lighting stalk. It's a pity that the dial faces still look over-ornate—the characters are not so easy to read as good, old-fashioned white on black.

A row of rocker switches are conspicuous enough, but their close grouping and imprecise feel could cause confusion, especially in the dark.

That traditional 5 bugbear—the offset pedals with no room for an idle left foot—is still apparent. The front seats are very inviting, though, with good all-round support, despite generous proportions and soft sumptuous style.

Apart from its striking all-alloy wheels with low-profile tyres, stiffer springing with special dampers are the only real suspension changes compared with lesser 5s. But the car feels much sharper in response, with moderated cornering roll and none of the typically-5, safe-but-staid under-steer.

The Gordini pulls lightly into a turn, grips like a leech even on wet corners, and, while the tail feels only too willing to ease out if one is really imprudent, there's good feel and steady progression when anything starts to happen—a safe and suitable set-up for a car of this character.

The stiffer suspension is still absorbent enough to shrug off mid-corner bumps without losing its line, and crosswind stability remains impeccable. The only real impediment to sporty motoring is the sheer weight of the steering through the small wheel.

How comfortable

Whatever else it lacks, the ordinary 5TL is DRIVE's favourite small car for sheer rest and comfort. Of course, the Gordini's price tag pits it against entirely different competition, but it still possesses a pleasing manner. Its ride is noticeably stiffer at low speeds—you'll notice bumps you'd miss in a 5TL—yet it levels out as the pace quickens to be more than the equal of most sporty-car rides. Legroom is just adequate for four, with a well-angled rear seat of intelligent proportions and good headroom. Getting in and out is easy: front seats move bodily forward, out of the way; you just stoop and walk in.

Load space, however, is compromised by a spare wheel (non-alloy, odd-sized, for emergency only) that stows under the carpeted floor—a Gordini impediment to holiday luggage. And even folding the rear seat forward is not a complete answer, because of the platform's height; but the split backrest does offer the

facility of a three-seater car with L-shaped load space—handy for carrying cots and the like.

All the new 5s have improved oddments-storage space, but we wish the recesses were less-obviously plastic on the upmarket Gordini—hard objects clonk about.

A quartz clock and tinted glass are standard Gordini items, two roof lamps give all-over interior illumination, and the man with the key will appreciate the new 5s' doorlocks—he can 'bolt up' from inside or outside nowadays.

Ventilation is effective, with twin central outlets aiming air in virtually any direction—not fan boosted, though. Rotary dials give reasonable heat control, but there's no doubt that the driver is the most-favoured occupant, as little warmth percolates through to the rear passengers' toes.

That infuriating Renault feature, the single rocker switch for tail-gate services (wash-wipe and heat), is retained, guaranteeing a dribble of unwiped water down the glass whatever you do, and proving particularly tiresome on a dirty day, when the wiper is required continuously. This simple need just can't be fulfilled.

The revisions have certainly helped this most-expensive 5 to look more 'integrated' in interior styling, and, for the most part, carpets and other materials fit and look good. There is still quite a lot of painted metal on view, however, and the tendency to over-stylize—a traditional Gallic failing—is evident in the new facia's design.

As a town commuting car, the Gordini manages surprisingly well. Its excellent all-round vision, with an effective dipping mirror (now stuck to the screen), helps slot the little car into tight spaces, while plastic shields at either end take gentle nudges without damage—to you or your carpark neighbour. The special door mirrors are of dubious value, though: seeing things their way, everything appears farther away than it is.

The engine does foul its plugs in prolonged, quiet use, but a steady increase in cruising speed on the open road soon cleans them again. Fourth gear proves ideal for threading gently through traffic or around the lanes, with a nice turn of speed instantly on tap, too, if needed. Pity about that unwieldy steering...

How strong

Renault once had a rusting reputation, but this problem has been tackled with ever-increasing determination throughout the last decade, and, in early 1978, factory measures were taken to ensure that the new five-year

anti-corrosion warranty would cause Renault no embarrassment. Like all current Renaults we've seen, our test sample was thoroughly coated underneath and in its box sections with a petroleum wax similar to that used by proprietary rust-proofers; the body is dotted with grommetted holes to enable further treatment to be applied by lance later in the car's life; and, under the wheelarches and along the sills, a chip-resistant plastic sealant is well applied. It's a thorough treatment that will set the car in good stead, so long as the check-ups (at the owner's expense) are adhered to. If not, the body warranty is annulled.

The silencer is re-located from its traditional spot under the front wing to amidships, but, with only a 4½in ground clearance, we don't fancy its chances over rough going; the same applies to the deep bumper chin, with its low-mounted driving lamps.

How safe

Given a strong pair of wrists, this Renault copes well with sudden manoeuvres, and it has a natural stability that makes it go straight ahead when others twitch and wobble off course. The brakes and low-profile tyres give 100% efficiency stops for any pedal-pressure from 50–60lb, though the pedal feels rather spongy initially, with too-intrusive a servo on light check-braking—you learn to contend with this, after a while. The car sat secure on a 1-in-3 hill, and restarted again, too. Fade is no problem—the first Renault for some time that has passed our test this well.

Squeaks and grunts from the front discs *did* afflict the Gordini however—a problem not unknown among Renaults.

Standard headrests on the front seats, a laminated windscreen, excellent roof padding that extends behind the sunvisors to cover the screen rail—all are good injury-prevention points that many cars still lack. But the 5 has its blind spots still: the special steering wheel's centre boss, for example, and the unlined backs of the new front seats, leave room for improvement. The seatbelts are fine, if used correctly, but their spring loading can allow slackness that constitutes a potential danger. And the door buttons aren't crash-proof: they could easily be depressed in a side-swipe, allowing them to fly open.

How much

The biggest surprise of this hot 5 is its extreme economy. We suspected it would do well, but not this well. It really would have been inconceivable, a few years ago, to contemplate a family four-seater managing 0–60mph in



RENAULT 5 GORDINI

Front engine: 1397cc/4cyl, OHV (chain); Weber twin-throat carb; 93bhp at 6400rpm
Front drive: 5 gears; 18.8mph/1000rpm
Suspension: front—ind wishbones, torsion bar, anti-roll bar; rear—ind trailing arms, torsion bars, anti-roll bar
Steering: rack and pinion, 3¼ turns/32½ft circle; 5.25 wheels (alloy), 155/70SR13 radials
Brakes: servoed discs front, drums rear

Parts/repairs (inc VAT)
clutch £45.73 (fitting 7hr)
exhaust £128.58 (1.8hr)
headlamp unit £45.31 (0.5hr)
front bumper £141.45 (1hr)
laminated windscreen £61 (0.9hr)
oil filter and points £6.52 (1.1hr)
major service 10,000 miles (3hr)

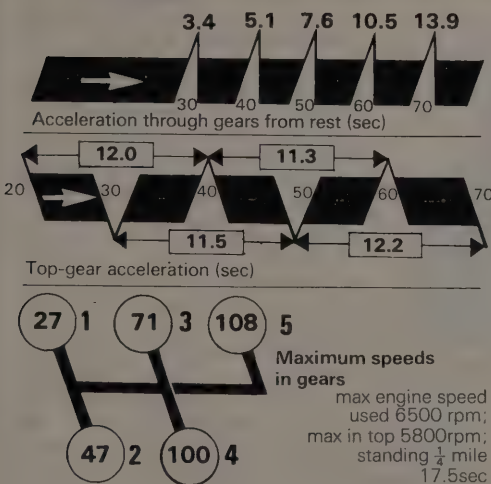
	per year	per mile
Running costs	£888	7.40p
Loss of value	£204	1.70p
Total depreciation	£850	7.09p
Insurance group	6	

HOW IT COMPARES

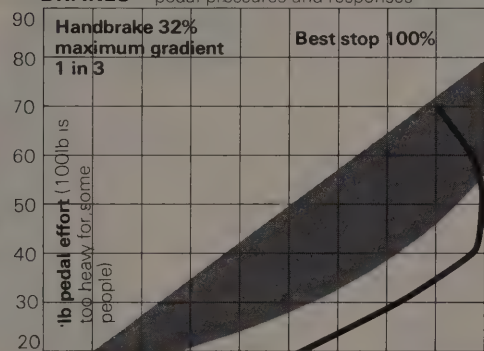
Renault 5 Gordini
Colt 1400 GLX
Fiat X1/9
Alfasud Sprint 1.5
Ford Escort 1600 Sport



PERFORMANCE



BRAKES—pedal pressures and responses



Fade test pedal pressure needed for 75% stop (ideal car would show no variation)
26lb at start; 26lb in constant use; 32lb in severe use
Watersplash 40lb at first, 3 stops to recover

FUEL 4-star/97 octane min overall consumption 37 1/2 mpg effective tank range 280 miles/7 1/2 gal

Normal range of consumption

hard driving, heavy traffic	28 1/2 mpg
short journey, suburban	31 mpg
motorway—70mph cruising	37 mpg
mixed roads—brisk, 50mph cruising	38 1/2 mpg
quiet rural—40mph cruising	46 1/2 mpg

Consumption at steady speeds

30mph	61 1/2 mpg
56mph	48 1/2 mpg
70mph	37 mpg
100mph	20 1/2 mpg

SAFETY CHECKS

steering: energy absorbing?	No	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	No
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	Yes	doors: crashproof?	No
convenient?	No	childproof?	Yes
rear belts: fitted?	No	petrol: spillproof?	Yes
		brakes: failsafe?	Yes
		load sensitive?	Yes

ON-ROAD PRICE (£)	CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	0-60MPH (SEC)	30-50MPH IN TOP (SEC)	BEST STOP (% g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
4836	1397	37 1/2	108	10.5	11.5 (5th)	100/50	11' 8"	38	34	3 1/2/32 1/2
3919	1410	34	93	12.6 E	9.5 P	86/50	12' 5"	41 1/4	35	3 1/2/34
5684	1498	36 1/2	108	10.2	10.1 (5th)	100/75	13'	40	—	3 1/2/32 1/2
5055	1490	31 1/2	101	12.2	11.7 (5th)	98/60	13' 2 1/4"	42 1/4	35 1/2	3 1/2/36 1/2
4110	1598	33 1/2	96	12.7	11.4	96/55	13' 3"	40	38	3 1/2/31 1/2

E—Economy setting 5th—5th gear P—Power setting

10.5sec and nigh-on 40mpg in normal mixed use—we saw this figure several times on longer, brisk journeys. Driven as a suburban commuter car, it is a lot more economical than when driven really hard—not unusual—but the motorway-cruising consumption is excellent, thanks largely to the five-speed gearbox.

There's no locking petrol-filler cap or flap, but the car does fill easily, and one soon learns how to get in 7½gal at a time (the gauge helps here), giving an adequate pump-to-pump range. Oil consumption was virtually nil on our car, though it was spewing out transmission oil.

An oil-change and quick check is due at 5000-mile intervals, with a full service every 10,000 miles. Not so get-attable as a Fiesta or VW Polo, most service items can be managed by keen DIY types . . . if only the handbook were more informative.

We suspect that the high compression will call for plugs-and-points attention more frequently than every 10,000 miles; and, to get to the valve cover, a lot of sundry items have to be cleared out of the way first—even the diagnostic socket is sited there (to intimidate?). The use of a single Weber carburettor looks a good portent for reliability, though.

Our running cost calculations reveal that this fast 5 is rather expensive to maintain—parts

prices look distinctly 'morish'. Insurance is a costly Group 6—but what else can you expect with this kind of performance and market pitch?

Assessing the Gordini's depreciation prospects is a risky business, for it could develop a following—

HOW GOOD

At-a-glance

DRIVE's verdict on the Renault 5 Gordini, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●●●

FUEL ECONOMY

●●●●●●●●●●

HANDLING/STEERING

●●●●●●

COMFORT/REFINEMENT

●●●●●●

INTERIOR/BOOT SPACE

●●●●●●

PASSENGER AIDS

●●●●●

DRIVER AIDS

●●●●●●

ACCIDENT/INJURY SAFEGUARDS

●●●●●●●●

RUST RESISTANCE

●●●●●●●●●●

RELIABILITY/EASE OF REPAIR

●●●●●●

or be considered 'over the top' by the typically conservative secondhand-small-car buyer. In the event, we quote the record of the 5TS—a model that has not held its value as well as its Fiesta or Polo rivals. It seems fair to conclude that this is an expensive small car whose price is only justified by its performance: a car for the specialist.

Verdict

Like the late, lamented Mini Cooper, the Gordini is a full-blooded performance car—but for the family man. Without doubt, in performance terms, it does deliver the goods. Whether it attempts to extract too many brake horses from too few cubic centimetres, to the detriment of longer-term reliability, is a moot point. Nevertheless, the strenuous 1.4litre engine propels the Gordini like no other of its size, and displays its efficiency in terms of remarkable fuel economy, too, given half a chance.

It doesn't offer the image of some elegant sportsters, and its raucousness, lack of refinement and rather-ordinary super-mini appointments may disappoint some, at this price.

In devising a projectile to meet the needs of the racer who is now more family-man than boy, Renault has also squeezed open the door on entertaining prospects for the fuel-conscious 1980s. Keep up with Jags and BMW's at 38mpg—it makes tempting sense.



DRIVE's consultant panel of private motorists for this issue comprised (left to right) Graham Sparkes, 36-year-old technical studies and car-maintenance teacher from Basingstoke, Hants; Claire Parker, 25-year-old Whitechurch, Hants, housewife; and Ron Daly, 32, an air-traffic controller at Heathrow.

DRIVE's testers were all agreed: the Gordini would be tremendous fun—for a weekend. Sadly, it couldn't keep our Everyman panel happy for even an hour . . .

'As a passenger,' said Graham Sparkes, 'I didn't like the way you sat on the seats, rather than in them. They were very uncomfortable—too short in the cushion. But there was plenty of room in the front to stretch your legs.'

'The instrument panel was very poor—the dials were pretty but too small and not very clear. I didn't like having all those rocker switches on the right of the steering column, either. The gear change was difficult—you had to be fairly rough with the box to get into fifth gear.'

'It was very, very fast,' began Claire. 'The ride and roadholding were exceptional; it cornered like a dream—what I'd expect from a car like this—but, well . . . I wouldn't buy a Gordini. Couldn't stand the strain of feeling obliged to race everybody.'

'DRIVE's test car looked tatty, but presumably the test-fleet does get thrashed . . . The carpet looked cheap and nasty, with a big stain on it. I didn't like the short seats either, and every time I turned the wheel I set the wipers going by mistake.'

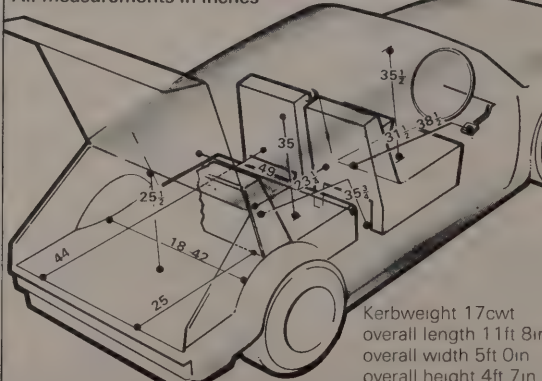
'It isn't practical as a family car,' said Ron Daly, 'really a two seater, in fact.'

'On the road, the car felt very solid, with no rattles, and it went very well—a hot performer. It was spoiled by the gear change. It went round roundabouts as though it were on rails—its stability is tremendous—but the steering was heavy as well as being precise. The noise was terrible, too, which also put me right off.'

DRIVE car tester Peter Denayer comments: 'Just about all the panel's complaints about seating and controls have been met by Renault's revisions for 1980. Claire's opinion about driving it fast is intriguing—I found the Gordini very sweet-tempered.'



All measurements in inches



Kerbweight 17cwt
overall length 11ft 8in
overall width 5ft 0in
overall height 4ft 7in

How to put a warm heart into a cold start



Cars can be distinctly temperamental in Winter. Frosty windscreens, cold seats, condensation, chilly steering wheel and cold air where hot air ought to be! Altogether unfriendly.

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Dolomite 1850 HL	£44.08	£72.16
Maxi 1500, 1750	£42.10	£68.31
Escort Mark II	£34.24	£55.95
Volvo 244	£89.34	£139.55
Cavalier 1600	£58.53	£91.08
Volkswagen Beetle	£27.82	£39.62
Renault 12	£70.62	£79.52*

*excluding front pipe.

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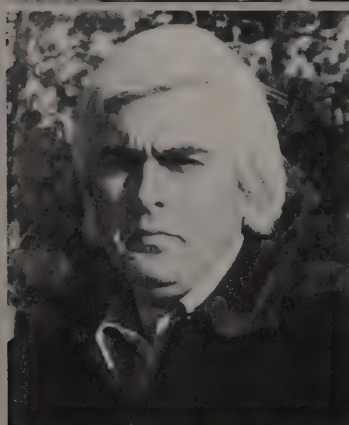
What have YOU done to Save It?

THAT was the question we asked of motorists passing through an M3 service station. For, as the AA says, fuel economy is in the interest of all motorists. Yet the number of blank reactions gave DRIVE a rapid judgement on the effectiveness of the government's petrol-saving slogan—and persuaded us to rephrase our question: 'In view of the government's energy-saving campaign, what steps are you taking to cut down your petrol consumption?' Fourteen told all...



◀ Bill Thompson, 50, from Burnham-on-Crouch, Essex, driving a Ford Fiesta 1100L: 'I had a Rover 2200 until last June, and then fuel costs prompted me to buy this Fiesta. I went from 26mpg to 44mpg—I check the figures religiously.'

'It took a little while to get used to the lack of Rover comfort—I think the ride was better because of its long wheelbase, and it was quieter, too. Now, most of my motoring consists of round trips of 50 miles to the office, and my wife uses the Fiesta to take the kids to school.'



◀ David Shaw, 37, a dental surgeon from Witham, Essex, driving a Volvo 245GL estate: 'I really haven't done anything to save petrol. I suppose I get 22–24mpg, and I'm quite happy with that. If I'd wanted to do more I'd have bought a smaller car, but with three children I need the room.'

'I suppose I drive at 70mph most of the time on motorways, and I don't exceed speed limits—especially when the children are with me. I certainly haven't modified my driving style because of the cost of fuel.'



◀ David Vyner, 46, from Portsmouth, runs a diesel-powered Volkswagen Golf LD: 'I'm doing about 45–50mpg, depending on how fast I drive. Once, when I drove at 60mph on the motorway, and 40mph on main roads, it worked out at 63mpg.'

'I don't really know why I bought a diesel car—I just fancied one, I suppose. Diesel engines are naturally economical, and I like the Golf, so I decided to get one.'

'I did have a big white Mercedes-Benz, but the police kept chasing me, so I bought the Golf in July 1978—in good time for the fuel shortage.'



▶ Tom Ellingham, 64, of Bushey Heath, Herts, runs a Simca 1301 Special: 'I drive more slowly now—except in special circumstances. On a long run I get 36mpg, which isn't bad. I've owned the car for six months, but I didn't buy it for its economy. A colleague was going to Canada, and I was able to get it from him at a good price.'



▶ Mrs Melinda Sparke, 22, from Fleet, Hants, runs a Volkswagen 1300 'Beetle': 'I'm probably more careful about fuel saving when I'm not in a hurry. But most of the time I am in a hurry, so...

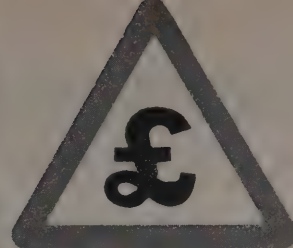
'The Volkswagen still gets used for every trip; I'm not yet desperate enough to walk or take buses. It doesn't do much to the gallon—about 25mpg—but then it is getting old.'



▶ Peter Lindsey, 55, from Southampton, runs a Polski Fiat 125P: 'I bought the car six months ago with economy in mind. The big economy was the price of the car, but I also reckon that it does 30 mpg, with most of my runs being around town.'

'I don't drive any differently because of the price of petrol—I'm not a fast driver. I am what you might call "middle-and-steady".'





MONEY

Avoiding action

NONE OF us enjoys paying tax—and I'm not referring to the one motorist in every 13 reckoned to be dodging the road-fund tax. I'm talking of income tax, especially on savings. But the sum you can put into tax-free investments is now quite considerable, and the returns on many are as good as the interest that you'll get (safely) anywhere.

Check this list to see if you are missing out...

National Savings certificates, 18th issue, pay nearly 8½% a year if held for at least five years. That's free of all tax. Limit: £1500 for every member of the family. A new 19th issue comes out this February, paying 10.33% tax-free. Limit: £1500 per person.

Index-linked savings certificates, Retirement Issue, are geared to the cost-of-living index, which economists expect to rise by at least 10% a year in the foreseeable future. The gains are free of all tax, and the certificates needn't be declared. Limit: £1200 for each person above retirement age—every man aged 65 or over, and for every woman of 60 or more.

Premium Savings Bond prizes—if you're lucky enough to win—are tax-free and needn't be declared. Limit: £3000 a head for savers aged 16 or over.

Index-linked Save-As-You-Earn schemes also stand to gain 10% a year or more, tax-free, if inflation continues at that rate for five years. But, in any case, you can get 6%, tax-free, provided you stop the plan after it has been running at least one year but no longer than five years. Limit: £20 a month for anyone over 16.

Building society SAYE schemes pay 8.3% if you save regularly for five years, 8.6% if you leave the money in for a further two. It's free of tax at all rates and needn't be declared. Limit: £20 a month for savers over 16. This is guaranteed to grow to £1480 in five years and £1760 in seven.

National Savings Bank ordinary accounts pay 5% interest and the first £70 a year is exempt from all tax—although it must be declared. Limit: to get the maximum tax-free interest, it is £1400 for both husband and wife (but not children), or £2800 held jointly.

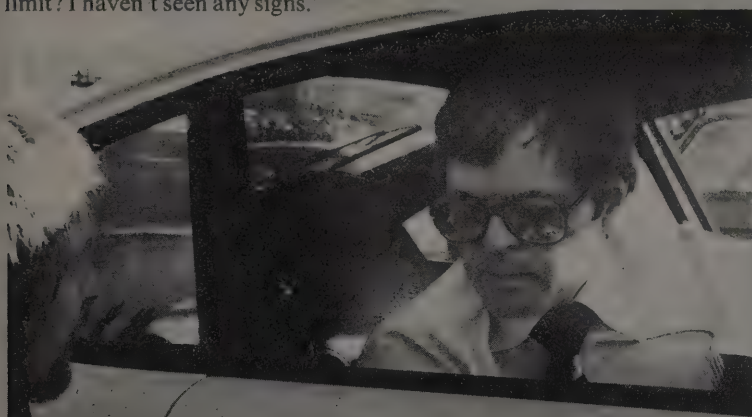
ROBERT HEAD

▲ Charles Feeser, 58, an engineer from Detroit, USA, was on holiday in a hired Ford Escort Popular: 'I drove out of London at 40–45mph, and then I started running at 55mph—like we do in the States. People still came past me. We are just sightseeing and we don't have a schedule to keep. Anyway, the wheels are out of balance on this hire car, and that's like having a built-in governor. What is your 'motorway speed limit? I haven't seen any signs.'

▲ Mrs Pat Newbury, of Wareham, Dorset, owns a Ford Escort 1300: 'I think I am driving more cautiously now. And I don't drive if I can walk instead—like taking my children to school. I am more aware of my speed now—I haven't just ignored the government's warnings.'

▲ Peter Robinson, 31, a civil servant from London, drives a Fiat Strada 65CL: 'I bought it last August, and I've had more than 45mpg out of it. I don't drive slower since the petrol shortage, and I haven't changed my driving style at all.'

'But I have stopped using my car to drive to work—now I go on the Underground. I stopped driving when fuel was in short supply, and I found the Tube no less convenient. I think it is cheaper, too.'



▲ Peter Pearce is a 35-year-old company director from Andover, Hants, and proud owner of a brand-new Porsche 911SC Sport: 'I bought the car on 1 August, and I'm not worried about fuel economy at all. I would draw the line at a car that did 10mpg, but I've no idea what mpg this car does. I should think it's around 20mpg. I do drive quite slowly, though, because I have ... ah, some endorsements.'

▲ Ian Hurst, 41, from St Albans, Herts, drives a Citroen 2CV6: 'I bought my 2CV some two years ago, changing from a Moskvitch estate. This car is a lot more economical, and can manage 50mpg overall as opposed to 32 mpg.'

'I have tried to adapt my driving to be more economical because I'm conscious of the cost of petrol. I stick to 50mph instead of 60mph, and that makes a big difference. I have tried knocking my speed down to 40mph, but it means changing down a gear on every hill—and that doesn't help economy.' It all sounded most sensible, so it came as no surprise to discover that Ian is a policeman...



▲ Robin Gillhespy, 33, of Hamilton, Scotland, driving a Ford Cortina 1600L company car: 'I have experimented with economy driving. I tried sticking to 50mph, and proved that it does work. On one trip to the south, I banned myself from going faster than 55mph and got an average 36mpg. My normal figure would have been 25–30mpg. I also keep an eye on my speed and try to keep it constant.'

'With a company car, it doesn't really matter how much petrol I use, but I do have to pay for private miles. Most of my own cars were chosen for their economy—the last one I had was a Citroen Dyane.'



▲ Mrs Wendy Payton, from Southampton, runs a Ford Escort 1100: 'I try to drive slowly, sticking to 50mph, but I have not cut down my driving at all. I use the car just for general running around, but the price of petrol is impressed on my mind.'

▲ Patrick Horne, 22, of Clapham, London, rides a Honda 250T motorcycle: 'I probably ride less now than I used to, and I'll take a lift when I can get one. I resent the price of petrol, but I haven't changed my speed or acceleration habits. A motorcycle is economical, anyway.'

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Real estate investment

Not that the idea is likely to win your sympathy, but there is such a thing as the needy rich—the man whose lifestyle encourages him to look for transport with air-conditioning and electrically operated this and that, but whose needs demand a car with a bowling-alley load space.

Today's luxury lorries will give all this, of course, but not many car-makers have something to suit.

Aptly enough, Volvo caters for both markets, but the vehicle that our struggling stockbroker can park in the driveway of his country cottage is the £10,000 265GLE—top of the Swedish maker's five-car estate range.

DRIVE set out to see where the lorries leave off and the limousines begin.

How it goes

It's an expensive business, design-

Volvo 265 GLE

Price £9509 On the road £9860

ing and building engines, so it made a lot of sense when hard-pushed Volvo pooled its resources with French giants Peugeot and Renault. The result was a brand-new, all-alloy V6 power unit for Peugeot's 604, Renault's 30 and Volvo's 260 series.

Initially, Volvo offered the shining new engine with a choice of carburettor or fuel injection, but its simple, single carb just wasn't up to the job, so today's 260s come with the happy Hobson's choice of well-sorted Bosch fuel injection.

Turn the key and the 148bhp unit springs into life—first time, every time on our car. Idle is smooth from the word go, but flooring the accelerator before the short warm-up period is com-

plete—a naughty thing to do, anyway—results in flat spots. Very embarrassing if one happens to be trying to nip out in traffic.

For such a big wagon—just under 1½ton—acceleration times are most impressive. Using all the permitted 6000rpm, we recorded 0–60mph in a creditable 11sec, which is faster than either an auto Rover 2600 or Ford Granada 2800 estate. Top-gear acceleration proves more than a match for most of the competition, too, which is just as well: the weighty clutch action—about twice normal pedal pressure—and powerful gearbox synchromesh combine to encourage the lazy way out when overtaking.

The gear change has a strong

spring bias towards third and top—so strong that newcomers invariably select third instead of first. Having suffered that indignity, they also have trouble finding reverse: a trigger under the gear knob has to be lifted before selection is possible. Overdrive—top gear only—is standard, with a convenient switch on top of the gear knob, but we found it necessary to resort to a well-timed dab on the clutch, too, to prevent a transmission thump.

Volvo has often been accused of building ponderous tanks—and rightly so, in the case of early offerings—but this latest car is more wieldy than it looks. Its standard power steering takes the strain out of low-speed manoeuvring, and the deep glass areas make it surprisingly easy to park. Driven hard and fast round the test track, it did all the right



things, and there was even a small but welcome amount of road 'feel' through the power steering.

That said, no one who drove our 265 found it a particularly enjoyable experience, despite its vice-free handling: it's one of those cars that are almost wholly devoid of driver-appeal. High-mileage motorists who absolutely hate driving will find its solid, dependable character reassuring, but the enthusiast will damn it as 'manageable'.

Volvo tries hard to ensure its drivers feel comfortable at the wheel. There's no steering-wheel adjustment, but the seat is adjustable for reach, front and rear cushion tilt, squab recline and lumbar support. If that's not enough, the seat is also electrically heated when the temperature falls below 15°C: a Swede caught with a cold what's-its-name isn't a happy driver. The large, padded steering wheel is sensibly angled and falls nicely to hand. Pedals are offset to the right, with large pads, but the broad-footed member of our test-team found that he was inclined to hit both brake and accelerator when aiming for the brake.

Important minor controls are governed by twin column stalks within easy fingertip reach of the wheel, the righthand controlling a comprehensive wash-wipe system that includes headlamps and the rear screen, the left taking care of indicators and headlamp dip/flash.

Instrumentation is grouped directly in front of the driver, in clear view through the wheel. Both the well-calibrated speedometer and tachometer proved impressively accurate, and the line-up is completed by fuel and temperature gauges, with Volvo relying on clearly marked warning lamps to feed other important information to the driver. There's a rather confusing array of seven rocker switches on the central console that would benefit from night-time illumination. The large door mirrors are electrically adjustable by two convenient switches, and there's a lamps/ignition buzzer that sounds off every time the driver's door is opened with the key left in the ignition.

How comfortable

The 265GLE is a strange brew: it sets the stage for up-market opulence, with leather upholstery, air-conditioning, electric windows and centralised door locking; on the other hand, it is noisy to the point of being downright crude. The driver who likes to sail along in silent tranquillity is certain to be disappointed by the wind roar, engine note and general road noises.

In other areas of refinement,

though, we were favourably impressed. The fuel-injection system, for instance, has made all the difference to this engine: no longer does it feel lumpy and ragged at top-gear low-speed pulling, and accelerator response is crisp and true. The effortless steering and tight turning circles are good points, too.

The ride is undoubtedly more twitchy at low speeds than its saloon stablemate's, but, as the pace quickens, it deals with demanding surfaces very acceptably, and a load improves things still further—despite a tendency to flounce. Caravanners can also invest in a Volvo self-levelling rear-suspension kit; prices vary widely, and it's a case of buying one to suit your needs.

Heavy and large loads are obviously what this car is all about. Even with three tall people comfortably accommodated on the rear seat, the cargo space behind is vast. Fold the rear seat forward (a one-handed operation, complicated on our car by a twisted trigger mechanism), and a cave opens up (although the Ford Granada and Citroen CX estates are bigger still).

The trim is plush but practical, the space is helpfully illuminated, and there are even hidden areas under the floor for valuables. Complaints? Well the tailgate is stiff and awkward to open, especially for ladies, and you don't have to be very tall to bang your head on its lip; stowage space up front is confined to a small centre tray, door bins and a lockable, illuminated glovebox.

We enjoyed the luxury of real-leather upholstery, but it really needs a centre armrest in the rear to stop one sliding around. Four large doors with strong stays help entries and exits, but the high sills, particularly in the rear, could be awkward for the less-agile.

Heating is more than man-enough to cope with the worst of British winters, with a good, even spread of warmth at foot level, but there isn't enough ventilation when the heat is on to prevent stuffiness. The problem is compounded by a water-valve heater that takes ages to respond. No complaints about demisting, though.

At the other extreme, air conditioning is standard—a good unit that doesn't blast the driver with icy-cold air, but gently brings down the temperature so that opening the door on a hot day can be a choking surprise.

How strong

It's no accident that Volvo has an excellent reputation for rust resistance—it works hard to achieve it, especially where it doesn't show: a good coating of petroleum wax covers the entire

floorpan; sill sections and wheel-arches are treated with pvc; there are plastic shields fitted to the galvanised front arches; and closed box sections and doors are well vented and coated with wax. The AA man who gives all DRIVE test cars a thorough underbody once-over says it's the best protection he has ever seen.

Metallic paintwork is standard and, though one or two Volvo complaints have filtered through to us of late, the finish on our car set a high standard. There's not much chrome around—most of the brightwork is stainless steel, and the sturdy wrap-around aluminium bumpers, thickly clad with rubber, are designed to give real protection.

The sheer size of the beast means that you need gorilla-like arms on wash days but there's no finger-catching trim to worry about. Inside, the leather upholstery is serviceable and easy to keep clean.

DRIVE's sister magazine, TRAIL, has just bid a fond farewell to a Volvo 245 after a 15,000-mile year of lugging around heavy test equipment and towing caravans. Apart from a starting problem in the freezing 1978/1979 winter, it proved extremely reliable.

How safe

Volvos have been selling on safety for a long time, doing more than most to protect the occupants in the event of a crash. Primary safety features—avoiding the accident—have been less notable in the past, but this has improved, too. Handling characteristics of the current cars are utterly safe and predictable in the dry, even if the 265 can still be a little tail-happy in the wet if one is sloppy and heavy-footed; however, there's plenty of warning and it's easy to correct.

The brakes do all that is asked of them, achieving an excellent best stop at a sensible pedal pressure, and refusing to lock and skid if pressed too hard. They also have 'fail-safe', triangulated dual-circuitry that should maintain respectable stopping power in the event of a line failure, and a warning lamp ensures that the driver gets the message. Fade is not a problem, and water has no effect on the all-disc system. The hand-brake also passed our tests with flying colours.

Our Safety Checks list speaks for itself: the only No is for interior padding—being insufficient around the windscreen or under the roof-lining for our liking.

How much

The 265's overall mpg clocks-in on just the right side of average. Particularly good is its 70mph motorway thirst of 25½mpg—that long-legged overdrive helps here

VOLVO 265GLE

Front engine: 2664cc/6cyl, OHC (chain); Bosch mech p/injection; 148bhp at 5700rpm
Rear drive: 4 gears (o/d on top), 19.1mph/1000rpm in top; (23.9mph/1000rpm in o/d top)
Suspension: front—ind damper/struts, anti-roll bar; rear—coil-sprung live axle, torque arms, Panhard arms, anti-roll bar
Steering: power-assisted rack and pinion, 3½ turns/32½ft circle; 5½J wheels, 185SR13 radials

Brakes: servoed discs all round

Parts/repairs (inc VAT)
clutch £105.94 (fitting 2.4hr)
exhaust £153.01 (0.8hr)
headlamp unit £64.18 (0.5hr)
front bumper £119.01 (0.4hr)
laminated windscreen £120.18 (2hr)
oil filter £4.49 (0.2hr)
major service 12000 miles (4hr)

	per year	per mile
Running costs	£1283	10.7p
Loss of value	£942	7.85p
Total depreciation	£2107	17.56p
Insurance group	7 (or refer)	

HOW IT COMPARES

Volvo 265GLE

Citroen CX2400 Safari

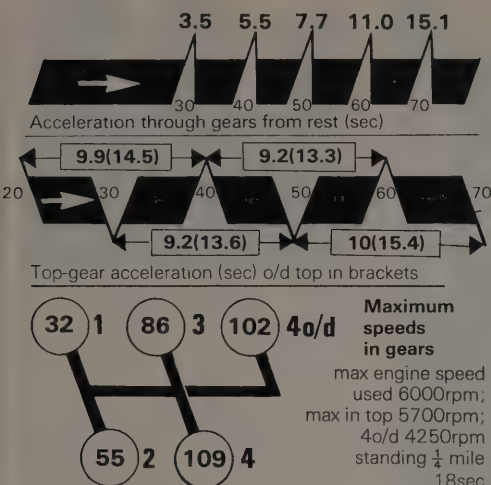
Ford Granada 2800GL auto

Rover 2600 auto

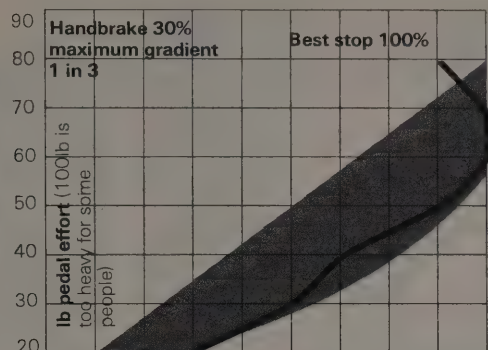
Renault 30TS (4 sp)



PERFORMANCE



BRAKES—pedal pressures and responses



FUEL 4-star/97 octane min
overall consumption 22 $\frac{1}{2}$ mpg
effective tank range 265 miles/12gal

Normal range of consumption

short journey, suburban	16 $\frac{3}{4}$ mpg
hard driving, heavy traffic	18 $\frac{1}{2}$ mpg
mixed roads—brisk, 50mph cruising	22 $\frac{3}{4}$ mpg
motorway—70mph cruising	25 $\frac{1}{2}$ mpg
quiet rural—40mph cruising	26 $\frac{1}{2}$ mpg

Consumption at steady speeds

	top	top o/d
30mph	33 $\frac{1}{2}$ mpg	34mpg
56mph	27 $\frac{1}{2}$ mpg	32mpg
70mph	23 $\frac{1}{2}$ mpg	25 $\frac{3}{4}$ mpg
100mph	12 $\frac{1}{2}$ mpg	16mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	No
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	Yes	doors: crashproof?	Yes
convenient?	Yes	childproof?	Yes
rear belts: fitted?	Yes	petrol: spillproof?	Yes
		brakes: failsafe?	Yes
		load sensitive?	Yes

ON-ROAD PRICE (£)	CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	0-60MPH (SEC)	30-50MPH IN TOP (SEC)	BEST STOP (%g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/CIRCLE (FT)
9660	2664	22 $\frac{1}{2}$	109	11.0	9.2/13.6 (o/d)	100/60	16' 0 $\frac{1}{2}$ "	40	39 $\frac{1}{2}$	3 $\frac{1}{2}$ /32 $\frac{1}{2}$
6790	2347	25 $\frac{1}{2}$	102	12.7	9.8	97/45	16' 2"	40 $\frac{3}{4}$	40 $\frac{3}{4}$	2 $\frac{1}{2}$ /39
7632	2792	21	103	11.4	5.5 (k/d)	100/35	15' 7 $\frac{1}{2}$ "	41	41	3 $\frac{1}{2}$ /35
7775	2597	24 $\frac{1}{2}$	109	12.6	4.5 (k/d)	100/70	15' 5"	41 $\frac{1}{4}$	41 $\frac{1}{4}$	2 $\frac{3}{4}$ /33 $\frac{1}{2}$
7497	2664	23 $\frac{3}{4}$	113	10.3	8.5	98/50	14' 10"	44 $\frac{1}{2}$	38 $\frac{1}{2}$	3 $\frac{1}{2}$ /37 $\frac{1}{2}$





—but around town it drops to an undistinguished 16½mpg. Things, however, can only get better when the 1980 model range appears, with its new induction pre-heat arrangement and a thermal control on the viscous-coupled fan.

On the forecourt, the last gallon or so is virtually impossible to get into the tank, so effective fuel capacity is down to about 12gal—hence our mediocre mileage between fills. And there's no warning lamp, either, so one has to learn the gauge's ways to go even this far. Oil consumption seems negligible.

Access to routine check and top-up items is good, but the Volvo is a servicing nightmare. If you look very hard, you might just get a glimpse of the sparkplugs—which will be enough to make most owners decide that servicing is a garage must.

Major servicing is scheduled for every 12,000 miles, with a minor service mid-term, and, with 200-odd dealers around the country, Volvo owners fare pretty well by import standards. Be warned, though: parts prices are very expensive. Warranty terms are one year, unlimited mileage.

You can buy a Volvo estate (the

HOW GOOD

At-a-glance

DRIVE's verdict on the Volvo 265GLE, taking into consideration its rivals, its price and what kind of car it's *meant* to be

Out of 10

PERFORMANCE

●●●●●●●●

FUEL ECONOMY

●●●●●●●●

HANDLING/STEERING

●●●●●

COMFORT/REFINEMENT

●●●●

INTERIOR/BOOT SPACE

●●●●●●●●

PASSENGER AIDS

●●●●●●●●

DRIVER AIDS

●●●●●●●●

ACCIDENT/INJURY SAFEGUARDS

●●●●●●●●

RUST RESISTANCE

●●●●●●●●

RELIABILITY/EASE OF REPAIR

●●●●●●●●

245DL) for as 'little' as £6887, which makes this top-of-the-range, bigger-engined 265GLE look expensive. However, take into account its technical specification and long list of standard features, and it emerges very favourably; a Ford Granada with all these features would set you back another £1600, and a Mercedes-Benz even more. Depreciation in this league is almost inevitably high, but the Volvo is a comparative saint.

Verdict

As you will have gathered, we didn't particularly enjoy *driving* the Volvo; nor did we reckon much of its refinement. But *owning* one? Ah, that's different.

The longer we lived with the 265, the more we came to appreciate its virtues, from the comprehensive body protection to the innumerable safety features and the strong feeling that it will still be going well when others have long since faltered.

It isn't real luxury, but, even if you do have £10,000 to spend, there are other considerations. As a serious load carrier, the 265 makes a lot of sense. Even more so if it's your *own* £10,000.



Amateur drivers always seem to regard a Volvo as a cross between a well-upholstered boardroom and a Chieftain tank. Our team was no exception...

Said Saab owner Graham Sparkes: 'It looks and feels solid, and gives the impression that it will last for ever. Volvo goes in for big fittings, but they don't look out of place. The seats felt fine—except that, as a passenger, I was thrown about.'

'I liked the instrumentation, especially the small tachometer. It all seemed very right—opulent, really—and the controls felt very positive, though I kept switching on the rear wiper by mistake.'

'I was favourably disposed to the car in the first place, but I did have some difficulty with the gear change—it was like a bus's—and once I went straight to fourth gear when I wanted second. But the turning circle was unbelievably good—it makes parking a dream.'

Renault 4-owner Claire Parker admitted: 'I have always liked the look of the Volvo estate and its image—you know, off to the dog shows with all your animals in the back. Whatever I didn't like, I am sure I'd be happy to accept it.'

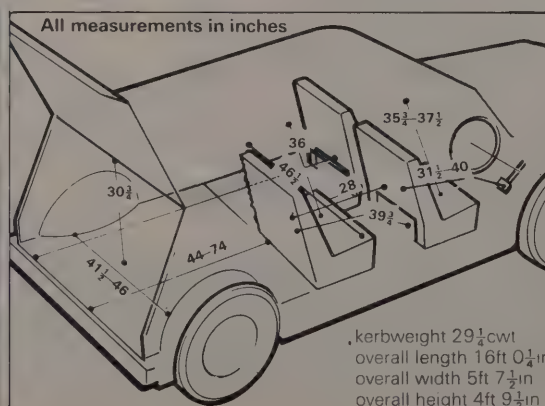
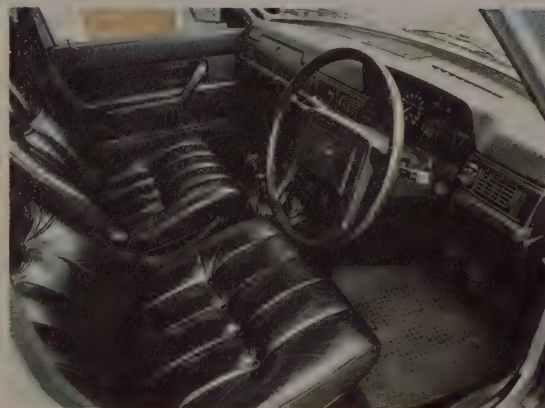
'But I would prefer an automatic gearbox. The clutch and the gear lever were too stiff for me to drive the car quickly. I noticed a funny vibration coming up the accelerator pedal, which made my toes tingle. The brake pedal was too high for me, but the brakes seemed very powerful.'

'On the motorway, the Volvo felt lovely and heavy and safe. I expected it to drive like a tank, but it was light.'

Volkswagen Golf owner Ron Daly agreed: 'A very practical car. I'd love one... if it weren't for the petrol consumption. It would take all the kids' rubbish and two roof-racks. Mind you, I could never afford a Volvo.'

'But what about all those safety features? You have only to open a door to start something buzzing or flashing. They are not an insult to your intelligence exactly, but are they really necessary?'

DRIVE car tester Richard Taylor replies: 'I think everyone had trouble with the heavily sprung gear change, and, even after 1000 miles of testing, the doors' warning buzzer was aggravating. I'd disconnect it.'



Ford Fiesta

Mañana, mañana

FEW CAR DEALERS could wish for better customers than Peter and June Rivers.

The couple decided, last spring, to relieve their bank manager of a loan for a new Ford Fiesta 1100L, trading-in their thirstier 1974 Ford Cortina 1600L. DRIVE, too, was looking for a Fiesta—to enrol into our Long-Term Test Club. And, in keeping with our new-style tests, we booked-in the Rivers' Fiesta alongside five AA-owned Fiesta 1100Ls, to be scrutinised for a year beside the Rivers' model.

Peter, a 30-year-old bench worker in a Fleet, Hampshire, pipe factory (the smoking variety), tells us: 'We've never bought a new car before, so you can imagine how excited we were. I said when the Fiesta was launched that it would be the car for us. It's economical, and it looks good.'

Being a Ford fan, Peter admits that he wouldn't look at rival makes. He has dealt for years with Ford distributor Vick Brothers Ltd, of Farnborough, Hampshire, so naturally he went straight back to them for his Fiesta.

The salesman said that he could take delivery some time in July 1979, and agreed a trade-in value of £1000 for the Rivers' Cortina. June asked if she should arrange a banker's draft for delivery day, and was flattered to hear that, as they were valued customers, this precaution wouldn't be necessary.

The Rivers went home happy—but, by mid-August, their smiles were wearing thin. They were told that their car had not yet been built, and would not be imported from Ford's Spanish factory until the beginning of October...

The final hiccup in the arrangements came on the Friday evening when they went to collect their new car. It seemed that a banker's draft *would* be necessary—and, during their wait for the Fiesta, there had been a price rise, a VAT rise, and depreciation on their Cortina, which was now worth only £900.

Peter and June not only agreed to meet all the price changes, but also to spend £69 on a rust protection treatment, £10 on a passenger-door mirror, and £217 on a radio/cassette player.

The Rivers and their brand-new Fiesta arrived at the AA's Basingstoke technical centre on 12 October, 1979, and engineer Charles Stubbs put it on the ramp.

Initial impressions were of disappointment with the poor paint-

work and quality of the pre-delivery inspection: protective delivery wax was still visible.

The underbody's exterior treatment looked good—but it turned out to be a beauty that was only skin-deep. Using a fibre-optic probe, our engineer found little evidence of internal protection...

Commented Stubbs: 'The operator has been rather casual in applying the rust-protection compound—it's sprayed on the exhaust pipe and silencer, while other areas have been missed altogether, notably the wheelarch

area around the nearside-front suspension strut. But the owner should be wary of a re-treatment, for if a moisture-repellent has not been applied, spraying more compound over these damp surfaces could defeat the object of rust-proofing.'

An examination of the engine and transmission, however, produced a clean bill of health.

June did tell us that she was worried by the way the temperature gauge needle shot up when first starting the engine, only to sink back to normal. Stubbs

reassured her: 'They all do that—and it *is* supposed to happen.'

When it came to the road test, putting on the seatbelt proved a tiresome exercise due to premature lock-up of the reel. It's a problem that DRIVE has seen on other Fiestas. Once out on the road, you could almost guess the only real annoyance that Stubbs found—an all-pervading stench of burning underbody sealant.

Is the Rivers' relatively trouble-free long-term test car typical of the Fiesta breed? Not content with



John M. Jones

just one sample, DRIVE steals a march on other magazines by testing not one but six Fiestas as part of our new-style LTTC programme.

Our findings on the other five factory-fresh Fiestas were...

THE FIESTA FILE

BHX 768T

Tyre pressures 2-3psi too low
Poor rustproofing treatment
Cardboard shields not removed from disc brakes
Timing at 14 degrees BTDC, dwell at 47 degrees, and 4% CO at idle did not conform to Ford's specifications. The figures should read: timing 10 degrees at 800rpm, dwell 48-52 degrees, CO 1.25% (plus-or-minus 0.5%).

BHX 806T

Tyre pressures 2-3psi too high
Poor rustproofing treatment
Cardboard shields not removed from discs
Timing set at 17 degrees, dwell at 50 degrees, CO at 8% and idle speed at 900rpm
In addition, a wiper blade was partly detached from its arm; the rear window-washer was out of adjustment and plastic on the boot's floor was coming unstuck.

CYK 111V

Tyre pressures 2-4psi too low
Poor rustproofing treatment
Cardboard shields not removed from discs
Timing set at 10 degrees, dwell at 51 degrees, CO at 4.6% and idle speed at 700rpm
In addition, the headlamps were slightly misaligned, and the offside stoplamp and tail-lamp were inoperative.

CYK 112V

Front tyres 4psi too high
Poor rustproofing treatment
Cardboard shields not removed from discs
Timing set at 12 degrees, dwell at 48 degrees, CO at 4.2%, and idle speed at 750rpm
In addition, first gear baulked on engagement and the steering wheel was offset by 15 degrees.

CYK 113V

Tyre pressures 2-3psi too low
Poor rustproofing treatment
Cardboard shields not removed from discs
Timing was set at 12 degrees, dwell at 48 degrees, CO at 2.9% and idle speed at 650rpm
In addition, the coolant's level was too low, there was a split in one sparkplug's connector, battery terminals were ungreased, and plastic was lifting off the boot's floor.

Peugeot 104 SL Birthday honours

ELIZABETH HALIBURTON-WAREHAM, 34-year-old wife of a chartered accountant from Thatcham, Berkshire, was quite confident. Just one year ago, she told us that her new Peugeot 104SL was going to give 10 long and faithful years of service...

Intrigued, we signed her Peugeot into the test club for the first of its 10 years. If there was one thing we learned from the experience, it was that it pays to be persistent.

The car certainly was not without its problems when it was

delivered from A and B Motors (Hermitage), of Newbury, Berks, and more problems cropped-up through the year. But, when it arrived at the AA's Basingstoke technical research centre for its final check, at 8085 miles, expert Charles Stubbs noted: 'All our complaints have received satisfactory rectification.'

In a nutshell, the choke functioned smoothly, the engine's tick-over speed was acceptable, the paintwork was in good order and the transmission's oil leak had

been sealed. True, a minor oil seepage was noted from the differential's oil seals, but Stubbs conceded that it wasn't worth worrying about.

On the road, the car behaved just as it should, without steering vibrations or deviation from the chosen course. Said Stubbs: 'With its well-applied Ziebart underbody protection, this Peugeot should continue to give satisfaction—if the present standards of servicing are maintained.'

But it wasn't always sweetness and light. In DRIVE's first scrutiny, in October 1978, with 120 miles on the clock, our engineer found a paint chip and dent on the bonnet; an oil leak from the valve-cover's gasket; a twisted oil-filler retaining clip; an engine idling at 1500rpm; and, worst of all, clutch spin that made it difficult to obtain first gear at rest, and impossible to select reverse gear silently. The Ziebart treatment was less than thorough, too.

Elizabeth quietly noted our expert's every criticism, and seemed determined to get everything rectified. In the event, her biggest battle was with the weather, for she had to drive through thick January snow to see us again, tackling a puncture herself en-route.

'The car has had its first service,' Elizabeth told us, 'and the Ziebart treatment has been redone. But the garage told me that what you diagnosed as an oil leak was really dripping rust-protection fluid.'

'I did complain about a squeak from somewhere in the back, and the garage tackled it, but it's still there. I am constantly annoyed by the wipers, too. They're set for Continental driving, so when the screen is dirty it is hard to see where I'm going. In these dark winter nights, the lack of reversing lamps is also noticeable.'

'Fuel consumption is 30-35mpg, depending on the length of my journey.'

AA engineer Glyn Marrett added to the winter of discontent by discovering a damaged weatherstrip on the driver's door,



and noticing that the small paint blemish on the bonnet had been made rather worse than before. A spray repair had produced a distinct fringe round the mismatched circle of paint.

The areas missed during the first Ziebart treatment had indeed been re-treated, but the engine was still leaking oil from its valve-cover gasket, and consequently lifting the Ziebart protection.

Elizabeth's Peugeot reappeared on 11 April with 4600 miles clocked-up. Marrett was happy to report: 'Most of the deficiencies noted in my last report have been suitably rectified, and the criticisms detailed here are not considered to be essential repairs.' In fact, only the idling speed remained too high.

The Peugeot's body was still free of stone chips and rust blisters, and the only external criticism was of the stiff tailgate lock. Inside, the tailgate's trim panel was insecure, two plastic retaining studs were broken, and the nearside rear-quarter panel's upholstery was torn.

Underbonnet, the engine's closed-circuit breather hose has been frayed by chafing against the spare wheel's trim. Marrett's road test also revealed a slight steering shimmy—indicative of the brake discs warping slightly.

Said Elizabeth: 'Yes, I had

noticed that the steering wobbled when I applied the brakes, and the garage did replace a front disc, but the problem's still there.

'Peugeot also recalled my car with the message: "Under certain conditions, functioning of the cooling system may result in the heater hose becoming detached. Hence we consider it essential to check this point".

'I had this done on 13 January—and, as far as I could see, all they did was to change the cap on the expansion tank.'

'Worst of all, on a bitter February morning, the car ground to a halt and refused to start again. I finished-up with three men pushing it. The problem turned out to be a jammed choke cable.'

Then, seven months after its delivery, the Peugeot was supplanted in Elizabeth's list of priorities by a new arrival—a 1 May baby, appropriately christened Penny May.

Check-up number four was delayed until 23 July, when the 6700-mile Peugeot was put under the super-critical eyes of AA engineer Bernard Tasker. He reported: 'The repainting on the bonnet is unsightly, and the dent was not removed first. It should be repaired again—properly.'

'The idle speed is still too high at 1050rpm instead of 900–950 rpm, and the choke control is stiff.'

'The nearside-front tyre is

feathering, and the engine, gearbox and final drive are liberally fouled with oil.'

During the road test, Tasker noted a slight steering bias to the left, and a drive-line vibration at certain speeds, but he regarded both as characteristic of the breed.

None of Tasker's observations were lost on Elizabeth, for, three months later, she was able to bow out of our Long-Term-Test Club with a well-sorted car. And, after a first year like that one, her other nine years' driving should be downhill all the way.

Says Elizabeth: 'In general I'm happy with the car. It's now giving me 35–39mpg, and I can remember putting in only two pints of engine oil during the year.'

'The insurance premium hasn't been too fearful, either, at £81—which includes my 40% no-claim discount. Servicing costs? I haven't had any yet.'

'But I am bound to say that the Peugeot is not as stable as the Fiat 127 I once ran. It's very French—it tends to rock and roll on corners—and I feel sorry for the passengers, especially as there are no grab handles for them to hang on to. The seats, too, are a bit on the narrow side.'

Says her husband, Robert: 'One of the car's main attractions is the hatchback—it doesn't have an awkward sill, which makes the

job of stowing prams and push-chairs a lot easier. But I do think it was a shade over-priced, particularly as it doesn't have reversing or high-intensity rear lamps.'

Among readers' experiences of Peugeot 104SL ownership, Mrs Tomkins of Ealing, London, writes: My husband and I bought a new 104SL in January 1978 because we wanted a small, reliable hatchback to last four to five years.

After the 1000-mile service, when the car was about three months old, the engine overheated. The mechanic unscrewed the top of the cooling system and added some water . . . A couple of days later, in central London, smoke and steam came out of the bonnet. AA Relay took the car back to our garage, where the head gasket had to be replaced. A few weeks later, the clutch started slipping.

It was when the 104 refused to start on cold or damp mornings, and when two rust patches appeared (one on the roof, the other on the driver's door), that I wrote to Peugeot. A representative went to my garage and agreed that the rust patches should be dealt with under the guarantee.

I should also add that, in January 1979 (a year after purchase), we received a circular from Peugeot advising us to have the cooling system checked! But it is a comfortable car.'

YOU CAN'T RELY ON YOUR CAR LIKE YOU CAN RELY ON THE AA

A breakdown can happen at the most unexpected time.
So it's good to know that wherever you are you can rely on the
AA for help 24 hours a day.

It's great to feel you belong.

For full details of membership for you or your friends, complete the inserted reply paid card.

AA

And now, a look at the weather...

WINTER 1979. Will any motorist who slithered and skidded through weeks of snow, ice and gales ever forget it? Cars that wouldn't start, cars that broke down, cars buried under snowdrifts . . . and, in the middle of it all, accusations of local-authority incompetence, central-government penny-pinching and bloody-minded union action.

Can it, will it happen again? If the winter of 1979 did nothing else, it demonstrated how frighteningly thin are our national resources for dealing with arctic weather:

- the salt which is used to clear snow and ice from the roads comes from just one UK mine; in 1979, its output was nowhere near enough to meet demand—and imported salt costs nearly twice as much

- gritting and snow-clearing equipment is often antiquated, since local authorities are reluctant to spend large sums of money on machinery that, in mild winters, is hardly used

- getting the salt on to the roads depends largely on volunteer labour—men prepared to turn out in the freezing small hours, after their regular jobs

- local authorities, under pressure to curb spending, can afford to plan only for a 'normal winter'. In mild winters, they manage; in 1979, admittedly the hardest winter for 16 years, they were stretched almost to breaking point

- the whole snow-clearing operation can be thrown into disarray by industrial disputes; as if the weather alone wasn't bad enough last winter, salt deliveries were stopped by pickets, and gritting crews refused to work

- to send even more shivers down county surveyors' spines, the frosts caused an estimated £55million of road-surface damage

Has anything been learned from the winter of chaos, or is 1980 going to see a repeat performance, with the same excuses and the same recriminations?

The way we were

WHAT PROVED to be the worst winter since the great freeze-up of 1963 started in earnest over the New Year holiday weekend. Heavy, drifting snow and sub-zero temperatures turned driving into a lottery and made many roads impassable. Local authorities were accused of being caught napping as drivers skidded on ungritted roads. Denis Howell, one-time 'drought minister' and 'floods minister', was drafted in as the snow-crisis supremo.

Local councils were quick to hit back at their critics. They said that they had acted as soon as the first snow warnings came through, and that gritting teams had been

working round the clock. But heavy drifting had frustrated their attempts to clear the snow; fuel had frozen in the pipes of maintenance vehicles; and the light holiday traffic had made the salting less effective—instead of being dispersed, snow had packed down, and low temperatures had turned it to ice.

The Association of County Councils said that the real villain was the government, for starving them of money. To which Denis Howell replied that he had been in touch with all the major authorities, and not one had reported difficulty in mounting snow-clearing operations through lack of funds. He promised councils 'generous' emergency

© BBC





help—75% of everything they spent above the sum they could have raised by a penny on the rates.

In all, 20 local authorities submitted claims, but these are still unpaid as DRIVE goes to press.

The AA carried out a nationwide inquiry into local-authority handling of the crisis and concluded that 'in most, if not all, areas, road-maintenance staff were on duty from the outset of the snowfall. Suggestions that local authorities did not anticipate bad road conditions appear to be unfounded'.

The AA added that councils were ill-prepared in the sense that they could not cope with the sudden heavy fall of snow, the abnormally low temperatures and the persistent high winds, but 'the majority did a reasonable job in the circumstances'.

Looking back, James Ireland, chairman

of the ACC's transportation and planning committee, says: 'With the resources available to them, authorities had to concentrate on the main routes, and many of the complaints were about *side* roads. I appreciate people's feelings—they pay rates and expect the job to be done. But, on the whole, council staff did pretty well in turning out promptly and keeping at least the main roads going.'

Season to taste

THOUGH PEOPLE still talk about 'gritting' the roads, most authorities use grit only as a last resort. The most effective way to disperse snow and ice is to put down rock salt: this melts snow, whereas grit merely helps to give vehicles a grip. And salt washes away afterwards, while grit is left behind after the thaw to clog machinery, stop-up drains and make every dry road

surface more dangerous for, perhaps, weeks.

There is only one working salt mine left in Britain, at Winsford, in Cheshire, run by ICI. It opened in 1844, but, as recently as 20 years ago, it was producing no more than 50,000 tonnes a year. The expansion of road building in the 1950s, including the start of the motorway programme, plus the boom in private-car ownership, caused the demand for de-icing salt to rise sharply. So Winsford was modernised, and it now produces around 1.5million tonnes a year.

In the mild winters of the early 1970s, that was more than enough to meet the nation's needs. Some years, we wanted only 600,000 tonnes, and Winsford was forced to lay-off workers. At the same time, local authorities were criticised by district auditors for holding high stocks!

Last winter, however, was a different



story. Stocks disappeared, the mine could not increase output to meet the sudden upsurge in demand, and the lorry drivers' dispute held up deliveries of what salt was available.

Local authorities did their best to manage, but—invariably—roads were skimped. Some councils tried to make the salt go farther by mixing it with sand; others delved deep and were able to get supplies from the Continent. Devon County Council, responsible for 8500 miles of roads—more than any other local authority—has long imported salt from Greece, Italy, Germany and Ireland. But, says county engineer Michael Hawkins, 'it was still touch and go'. London's biggest borough, Bromley, used nearly six times as much salt in 1979 as in 1978. The national total was 2½million tonnes.

In April, when the weather had at last

begun to relent, ICI approached local authorities and asked them to estimate their needs for the coming winter. Back came the answer: 3million tonnes. Since Winsford can produce only half this amount, arrangements were made to step up imports. Even so, the total amount of salt—British and foreign—looks like being no more than 2.4million tonnes . . . 20% below the figure that the councils regard as adequate. Allocations are having to be rationed.

Says ICI: 'We are keeping our fingers crossed that 1980 won't be as bad as last winter. If so, we should be able to get through. But we are urging local authorities to conserve their stocks and to use salt as sparingly as possible. *This means that motorists cannot expect the roads to be treated every time there is a mild frost.*'

Staffordshire's county surveyor, Jack

Shelbourn, spells out the reality of the situation: 'Ideally, to cope with a winter like last time, my area needs a stockpile of 80,000 tonnes. But all we've been able to lay our hands on is 49,000 tonnes—and 10,000 tonnes of that has had to be imported.'

Adds Dennis Clark, director of public services at Blackburn, Lancashire: 'Like everywhere else, my county has insufficient salt to meet total requirements. If there is a repeat of last year, we'll run out of salt pretty quickly. And if that happens, we'll have only grit at our disposal.'

Hard-pressed local-authority engineers question whether dependence for salt on just one British source is desirable. ICI argues that it would be uneconomic to increase output when severe winters happen so seldom. Many councils do top-up stocks from abroad, but it is an expensive

business. Salt from Winsford costs around £12 a tonne; a tonne of Continental salt can cost up to £22.

Those magnificent men . . .

THEN THERE is the question of manpower. Denis Howell tried to answer critics of the local authorities' snow-clearing efforts last winter by saying that, in a normally temperate climate such as Britain's, it was not possible to have 'a whole army of men constantly standing by to clear the roads'. Some councils use outside contractors on snow clearing, but most prefer the flexibility and convenience of calling on their own staff. What usually happens is that council roadmen are paid to operate an emergency rota, from perhaps November to March, so that they are available to turn out at a moment's notice.

The system is voluntary and needs careful handling. In past years, it has generally worked well, though as one local-authority

engineer points out: 'Since basic wages are so much higher than they used to be, it is getting more difficult to persuade men to turn out in the small hours for a bit of extra money.' Last winter, under the combination of the relentless weather, which brought gritting crews near to exhaustion, and industrial unrest over the government's pay limit, goodwill disintegrated.

Locked into arguments with their council employers about stand-by pay, gritting crews in many areas refused to turn out. The men were accused of endangering lives, an allegation hotly contested by Alan Fisher, general secretary of the National Union of Public Employees: 'The roads are in a disgraceful state not because of men, but because of penny-pinching employers and government.'

Answering questions in Parliament, the then Transport Secretary, William Rodgers, revealed that the government had contingency plans for the use of

troops 'if the local situation warrants it and it is not possible to get the work done any other way'. Things did not come to this, but the bitterness of last winter will not easily be forgotten.

. . . in their clearing machines

LIKE SALT, but on a much-more expensive scale, the provision of snow-clearing equipment presents councils with a dilemma. On the one hand, it is difficult to justify spending, say, £20,000 of the ratepayers' money on a new gritting machine that for 10 or 11 months of the year will lie idle in a depot. In a mild winter it might be called on for only days.

In 1973, Buckinghamshire County Council bought half a dozen snow blowers. Fitted to heavy tractors, they are designed to slice rapidly through snowdrifts . . . but, until last winter, they had scarcely been out of wraps.

On the other hand, when a hard winter



does arrive, the local authority is criticised for being unprepared. The London Borough of Bromley tried to get over the problem of tying up large sums of money in machinery that might be little used by attaching its gritting units—spreaders operated by donkey engines—to the frames of old refuse lorries. The economy paid off . . . until last winter, when the unreliability of these ageing vehicles was finally exposed. There were breakdowns almost every night, and council fitters had to work in terrible conditions to keep the gritters going. Bromley has learnt its lesson: for the coming winter, it will have three brand-new heavy-duty lorries ready to be fitted with gritting machinery when the weather looks like turning nasty.

For motorways and trunk roads, local authorities act as agents for the Department of Transport, which maintains a pool of 200 snowploughs. The DoT says that, although demand on equipment last winter was great, most main routes were kept open most of the time—albeit with lane closures and speed restrictions. The department also keeps a stock of snowploughs and blowers that councils can borrow for non-trunk roads.

But a lot of snow-clearing machinery is antiquated and, in an emergency, there is not enough of it to do a thorough job. The result is that attention has to be concentrated on major roads, and anything less may not be treated for several days—by which time the snow has probably melted.

Slush funds

THE ASSOCIATION of County Councils estimates that the winter of 1979 cost local authorities nearly £90million—£32million for salting and snow clearing and £55 million for extra road maintenance. And keeping roads open is just part of the story: once the snow and ice had gone, councils faced horrendous bills for repairing the damage to road surfaces that the vicious weather had inflicted.

As the figures were totted up, it became clear that winter maintenance budgets had been overspent several times, with little prospect—short of help from central government—of bridging the gap. Devon's normal snow-clearing budget is £500,000 a year. In 1978–1979, the actual cost of trying to keep the roads clear was £2million. In addition, £3million has had to be found for extra repairs, which has meant using money earmarked for other road schemes, digging into the reserves and hoping that Whitehall will be generous. But even payment of Denis Howell's 75% above the product of a penny rate would still leave Devon—and many other authorities—scratching around for money.

End of the road

THE GRIM legacy of winter 1979 was spelled out by the Institution of Municipal Engineers last March: 'Many sections of road have complete structural failure, road haunches are extensively damaged, cracks are allowing water to get into the road base, surfaces have deteriorated and

FOR THE RECORD

Meteorological records suggest that bad winters usually run in 16-year cycles, and that two really hard winters consecutively is unusual. So, since last winter was one of the five coldest this century, does this mean that we could be in for better luck this time?

The Met Office, perhaps wisely, limits its long-range forecasts to 30 days, so DRIVE called up leading amateur weatherman Arthur Mackins, from Barnham, Sussex. Mackins is a 71-year-old who has his own formula to predict the elements—studying records dating back to 1908, taking sea temperatures . . . and holding up a wet finger to the wind on the days of the equinox. It's a system that has failed him only once in recent years. The main basis of his verdict, however, is sea temperature: in October 1978 it was 3°F down on October 1977, 6°F worse than 1976. As a result, Mackins predicted the prolonged bitter spell of 12 months ago that set Britain sliding.

Last October, he reports, sea temperature was 3–4°F higher than in 1978, indicating less-extreme conditions this time round. His forecast for the first three months of 1980: very cold periods in January and February, with snow and frost at times.

'A date to note,' he says, 'is Candlemas Day—2 February. Prevailing winds on that day usually provide a clue to the kind of weather we can expect almost up to the end of March. If the winds are north-westerly, it will mean "continuing cold and wet".'

large numbers of potholes have formed in weak areas.'

Council engineers argue that the situation has been made worse by years of reduced government spending on road maintenance. Between 1973–1974 and 1978–1979, spending was cut (by 1978 prices) from £760million a year to £641 million. Says Michael Hawkins, Devon's engineer: 'We warned the government that excessive cut-backs on road maintenance spending would be a false economy, and we have been proved right.' His colleague in the London Borough of Bromley, Bill Outterside, agrees: 'I wish politicians would stop using highway maintenance

WINTER GAMES

LAST YEAR'S arctic winter gave body-repair shops a bonanza and insurance companies a severe pain in the wallet. Odd, isn't it, when we all know that it is easy to drive on snow: when conditions get really tough, all you need to do is go easy on the accelerator.

Well, that's not *all* there is to it. Driving in ice and snow is a highly skilled business that calls for a lot of practice, and it is practice that we lack in this country. Not only that, unlike the Scandinavians we can't guarantee bleak winters often enough for most drivers to invest in a set of snowchains or studded, rally-type tyres. So on snow, expect stopping distances to be trebled; on ice, the distance can be 10 times the normal figure.

Light use of the brake and accelerator is another key rule if minor slips are not to turn into real heart-stopping skids. While everyone can tell you that you should 'steer into a skid', few have the skill to catch a car in time. The place to learn is at a skidpan, where the experts will also teach you the art of cadence braking—applying the brakes in a smooth on-off sequence.

Moving off in second gear can reduce wheel-

as an easy way of saving money. In the long run, it *costs* money.'

The AA agrees. Says director general, Olaf Lambert: 'Investment in roads has now reached a dangerously low level.'

On top of road-maintenance cuts, councils are having to trim their budgets all round in response to the Conservative government's war on public spending. Officially, this means that no more money is likely to be available for winter maintenance this year than it was last. Already, warnings are being sounded. West Midlands' engineer Stuart Mustow says: 'We will do our best to maintain snow-clearing standards, but I must make it clear that improvements in standards are just not on.'

When it comes to the point, councils tend to spend what is needed to keep the roads reasonably safe, and try to find the money afterwards. But another hard winter would mean that funds are going to be spread very thinly indeed.

And when the snow comes . . .

THE CONCLUSION must be that, since Britain does not often experience the bitter winters of Scandinavia or Russia, it is woefully ill-prepared when they do occur. The chances of 1980 being as bad as 1979 are slim, if past records are anything to go by. But, this winter, who knows whether the machines and the salt stocks and the volunteers will be up to the task? The taxpayer and ratepayer probably gets what he is prepared to spend; road users will have to put up with it—despite paying £5600million last year alone in motoring-related taxes.

But, of this sum, only £2000 million was put back into roads and maintenance. As Bromley's engineer, Bill Outterside, puts it: 'You have to set realistic limits on what you can do, and, frankly, the motorist cannot expect 100% treatment on 100% of roads. If it snows, someone is going to be inconvenienced.'

Guess who?

spin and, if that doesn't work, try applying the handbrake halfway then releasing it as the car begins to move. Avoid stopping on hills—it is worth waiting at the bottom until the climb can be made in one go.

Use your ears. Road and tyre noise falls markedly when your car is on ice; as soon as this happens slow down *gently*.

Contrary to popular belief, tyres don't grip better when their pressures are reduced—quite the reverse, in fact. So keep tyres at the recommended pressures.

After driving through snow, inspect the tyres for sharp stone chippings that may eventually cut right through the tread, causing a blow-out or a puncture.

Finally, a look at the worst: it is generally impossible to drive a car in snow that is more than a foot deep, as the snow will simply be bulldozed up into a heap under the car. An unexpected drift could easily tear off an exhaust silencer, too. If you can't dig the car out, stay inside and wait for rescue—people die when they decide to walk for help without proper warm clothing. But keep awake and *never* go to sleep with the engine running—you may never wake up.

Clinic

Any problems? Whether they are technical, insurance or legal, DRIVE's experts can help. Write to: Clinic, AA, Fanum House, Basingstoke, Hampshire RG21 2EA

Flat rate charge

I'm sure that it would be of interest—and settle many arguments—if you were to publish the correct procedure for charging a battery with a trickle charger.—S A TROW, DUDLEY

The golden rules for using a battery charger are as follows:

Make sure that the battery is clean and topped-up with distilled water, and that the charging area is adequately ventilated.

Replace the vent plugs or cover to prevent any electrolyte overflow.

If the car is fitted with an alternator, disconnect the main battery leads.

Connect the positive (red) lead of the charger to the positive terminal on the battery, and the negative (black) lead to the negative terminal.

Plug in the charger at the mains and switch on. Most trickle chargers are fitted with an ammeter, which shows the rate of charge. With a flat battery, it will show an initial charge of about 4amp, but, after a few hours, this will drop to about 1½amp and remain there until the battery is fully recharged. (This will usually take about 12 hours, so an overnight charge is usually adequate.)

Finally, switch off. Don't remove a connecting clip while the charger is on: this may cause a spark that could result in an explosion.

Trouble in store

Some while ago, I read that it was illegal to carry in a car more than one spare gallon of petrol, so I discarded my large can and bought a smaller container. But, for some time now, I have noticed that accessory shops—and, indeed, the AA—sell 2gal cans. Would you please clarify for me how much spare petrol may be legally carried; also how much may be stored in one's garage?—R H TRUMP, LISKEARD

It has proved surprisingly difficult to get firm and 'official' answers to your questions. However, our understanding is that up to four gallons of petrol may be carried in the car in two 2gal metal containers, which should be clearly marked 'Petroleum spirit—highly inflammable', and securely fastened.

At home, it's legal for you to keep four gallons—in the car, and the car parked in the garage; but you run into all sorts of complicated regulations if you wish to keep petrol in the garage but not in the car. For a clear ruling on this point, we suggest that you take up the matter with your local authority.

All together now

I want to fit a set of triple air horns to my customised Ford Transit, but

I seem to remember reading that they are illegal. Yet they are advertised regularly in the motoring press. What is the position?—R L KEEN, BARKING

Multiple air horns are perfectly legal . . . provided that, when operated, they all sound together to make one continuous chord. They must not blow a series of individual notes—a burst of Colonel Bogey or a wolf-whistle could land you in trouble. Nor are they allowed to sound like official vehicles, such as ambulances, fire engines or police cars.

Thrust dust

My low-mileage Hillman Minx had a screech from the clutch pedal when I bought it secondhand, so I replaced the thrust bearing. Noise disappeared. But now, some 4000 miles later, it has returned—albeit intermittently. Could there be a fault in the clutch, and should I just ignore it?—L BRADSTOCK, BUDE

It's a common fault on Chrysler's Hunter derivatives and Imps—they are fitted with carbon thrust-release bearings. The squeal is the result of a build-up of carbon dust on the face of the bearing—not any fault in the actual clutch mechanism. Like brake squeal, it's more irritating than serious, and, if you ignore it, it just might go away. If it doesn't, you'll either have to fit a new bearing or remove the present one, clean it up and file grooves in the carbon to let the dust escape.

Dark thoughts

A colleague insists that driving with headlamps and heated rear window on uses more petrol than driving dark and misty. Is he right?—T POLLARD, SIDMOUTH

AA engineering research testers recently carried out tests on a Ford Cortina: at a constant 70mph, switching on the headlamps and heated rear window increased the fuel consumption by about 1½%—a figure that was recorded consistently in controlled track tests. We don't, however, advocate that you should drive at night without headlamps to save a few pence. . .

Dented pride

My car was hit by a driver who failed to give way at a roundabout. He admitted his guilt in front of four witnesses—yet I have lost 20% of my no-claim discount and £20 of my voluntary excess. Isn't there something very wrong with an insurance company that can treat an innocent driver like me in this way?—S DAMPS, BOREHAMWOOD

There are only a few collisions between vehicles that can be blamed entirely on one driver. In nearly all other cases, blame is apportioned between the two drivers concerned, and each will have his no-claim discount affected.

In your case, if you have four independent witnesses prepared to absolve you of all blame for what occurred, it would seem probable that you could claim successfully

against the other driver. If you could recover your £20 damage excess from the other driver, or his insurers, then it is almost certain that your own insurer would maintain your no-claim discount in full.

Pay the piper

While replacing a pair of brake-cylinders on my Escort, I had to saw through the interconnecting hydraulic pipe because the unions were rusted in tight. Now my Ford dealer tells me that it doesn't stock replacements, and it can't make one up for me because it's waiting for a delivery of pipe. So I'm stuck, brakeless. Is there a way out?—B FENWICK, STONE

There is usually a motor factor in every reasonably sized town (try Aylesbury, or consult 'Yellow Pages') that specialises in brakes and brake components and should be able to supply you with any length of pipe with the unions fitted; or it will make up a pipe for you while you wait, identifying from its manuals the length of pipe and the unions needed.

Excess charge

My car battery is only nine months old, but I have to top it up weekly with a considerable amount of distilled water. It appears to be reasonably healthy; is there any reason for its abnormal thirst?—A M PRIEST, GLASGOW

It could be that one or more of the cells has a manufacturing fault, but the more likely cause is that the

battery is being over-charged, in which case early failure will result.

Over-charging can be proved fairly simply. Connect a voltmeter across both terminals: when the engine is revved, it should not read more than 14.5v. If it does, have the charging system properly tested by a specialist.

Clip joint

With winter approaching, I realise that it's a sensible idea to carry a pair of jump leads to help start my car should the battery give trouble, but I'm uncertain how to use jump leads. Could you please explain?—MISS M J GREEN, SANDBACH

To start a car using another car's battery, first switch off all electrical equipment and make sure that both cars are in neutral and are not touching (bumper to bumper, for example)—otherwise damage to the charging systems could result. Connect the positive (+) terminals of both batteries with the red-handled lead, and the negative (—) terminals with the black lead.

Run the engine of the 'donor' car so that the supply battery is immediately re-charging. If the car with the flat battery won't start after two or three tries, don't carry on, otherwise you may exhaust your good-samaritan's battery.

When the recalcitrant car starts, remove the clips as soon as possible to avoid arcing, taking care not to touch the bodywork with the live ends of the leads.



Star qualities

I was led to believe that my new VW Golf 1100 would run on 2-star petrol, but the handbook recommends fuel with an octane rating 'no lower than 91'. Consequently, I tried to find out the rating of the petrol I use, to ensure that I was losing no performance and causing no engine damage. But the garage's pump gave no indication, and the attendants didn't know. When I phoned the petrol company concerned, I was told: 'It must be around 90 to 91.'

Can DRIVE advise me which petrol companies supply 2-star with a suitable octane rating for the Golf, and is there any harm in using 3-star instead?—M WATKINS, PLYMOUTH

Despite your concern over using

2-star petrol in your Golf, this grade is suitable, and should have no detrimental effect on your engine.

If, however, you wish to run the car on 3-star, there is no harm in doing so. It is perfectly all right to go up in octane rating (it will only cost you more), but an engine should not be run on a lower octane rating than that recommended by the car manufacturer.

The reason why the petrol company you telephoned seemed rather vague in its reply could be due to the fact that grades of petrol can vary slightly. Thus 'batches' of 2-star, nominally rated at, say, 90 octane, can vary between 90, 91 or 92 octane; but this variation is not great enough to cause any problems.

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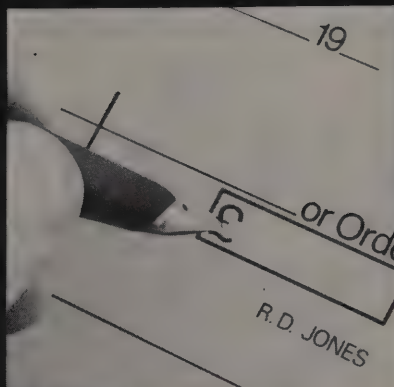
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Check some of the discounts you might be eligible for . . . A 20% discount if driving is restricted to husband and wife. A 10% discount if you are over 60, or if your car is over 6 years old. A no-claims discount up to 65% perhaps . . . or substantial occupational savings. You can pay by instalments too . . . in fact as a motoring organisation we've tried to plan insurance to suit *you* in every way. So put that pen to good use . . . and freepost for the AA quote now.

...check!

Please use **BLOCK CAPITALS** initials surname

Mr/Mrs/Miss ;

Membership No. (if applicable) ;

Address ;

Post Code ;

Telephone No. Day. ;

Eve. ;

Occupation(s) ; Employer's Business ;

About your car

Make and model of car including details of modifications ;

Reg. No. ;

Engine cc ; Year of manufacture 19 ; Value £ ;

When do you use your car? *Please delete the word that does not apply.

In addition to private use, will the car be used for:

(a) Driving to work on three or more days a week? NO/YES* ;

If YES, name city, town or suburb where you work ;

(b) Business use by yourself only? NO/YES* ;

(c) Business use by another person? NO/YES* ;

(d) Commercial travelling? NO/YES* ;

What cover do you want?

Please tick type of cover you require:

Comprehensive ☐ Third Party Fire & Theft ☐ Third Party Only ☐

If you wish to reduce the premium by bearing the cost of any damage to your car indicate (✓) the appropriate amount.

up to £25 ☐ up to £50 ☐ up to £100 ☐

Please indicate (✓) who will drive the vehicle:

(a) Yourself only ☐

(b) Yourself and wife/husband only ☐

(c) Yourself and one named driver only ☐

(d) Any licensed driver ☐

In the case of (b) and (c) please give details of other driver or in the case of (d) of youngest known driver.

Age ; yrs.

Length full UK Driving Licence held ; yrs.

When would you like cover to start?

day month year

(Indicate when your present insurance ends).

On that date:

(a) How old will you be? ; yrs.

(b) How long will you have held a full UK driving licence? ; yrs.

(c) Have you been resident in the UK for 3 or more years? NO/YES* ;

(d) How many years No Claims Discount will you be claiming in your own right? ; yrs.

Have you or any other person who will drive the car:

(a) Been convicted or have pending prosecutions for a motoring offence? NO/YES* ;

(b) Been involved in any accident or loss regardless of blame in the last five years? NO/YES* ;

(c) Suffer from any physical disability or infirmity e.g. heart disease etc? NO/YES* ;

If you answered YES to (a), (b), or (c), please give details on a separate sheet.

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Meet Henry's Glamorous Granny

Look quickly, and you'd be forgiven for mistaking today's Granada for a Mercedes-Benz. There are no mistakes, said Freud—and Ford is his prophet. The Granny looks like a Merc because that's precisely the upper-class jungle in which it is designed to live.

And why not? Ford has the design and engineering resources to make the smaller, luxury-car makers look like paupers. Give it the money—say £10–11,000—and why shouldn't it build a car good enough to be seen in the stockbroker belt?

'But we know you, Henry,' cry the critics. 'You're the man who makes cars for salesmen and fathers-with-overdrafts.' For these folk, a five-figure sum is not to be spent on a Ford; it may not be enough for a Merc, or a Jag, but it is reckoned to be more-

Ford Granada 2800i Ghia auto

Price £10,018 On the road £10,143

wisely invested in something like a BMW or a Volvo.

Is Henry overstretching himself? Is the Granada a bargain contender in the top-class war? Or an over-priced pretender among the sleek cats?

How it goes

The latest Granada's styling has been generally praised in comparisons with its more-garish predecessor. But it's not only looks that are different: there's a German-designed 2.8litre V6 engine in place of the 3litre 'lump' that soldiers on only in the Ford Capri. And Bosch fuel injection boosts power by no less than 25bhp... even if it does nothing for torque, that important pull-

ing power that makes some cars feel better sloggers at low speed, and more willing to step off in lively fashion in top gear.

With all these horses under the lid, things could hum—if only the smooth-revving engine could be encouraged to spin freely when overtaking urge is required. Sadly, such goings-on are beyond Ford's three-speed automatic transmission—an elderly design that changes up early. The best you'll get in the middle ratio, without resorting to manual override, is 5400rpm/69mph. Worse still, it won't change down into first at any speed above 20mph.

And it shows in acceleration: our best 0–60mph time of 11sec is only a precisely split second

quicker than the same burst in the carburetted auto estate tested last year, and overtaking times from the lower speeds are actually inferior. Of course, you can, as we did, resort to manual override—an awkward T-handle with its release button and selector positions on the wrong side for British drivers. This gives high-speed downchanges with a nasty jolt, but acceleration through the gears does benefit, as our tables show. This is a set-up that requires you to do it yourself when you want the best acceleration times. Our 0–60mph time, for example, lengthened to 12.2sec when we left it all to the auto.

The Ghia version of the Granada boasts the uprated S-pack suspension, with Michelin's new ultra-low-profile TRX tyres on special alloy rims—the second car that we have sampled on this



tyre (the other was the Saab 900 Turbo, and there's no doubt that it clamps to the road for fast cornering. The Granada showed none of the tail-happy tendencies detected on last year's estate, and mid-corner bumps also are quelled quickly and with the absolute minimum of fuss.

Steering, however, disappointed, with its sticky, spongy feel. Even in mid-corner, applying a bit more lock betrays a soggy, free movement that hampers precision and control. There's no true 'feel' of the road, either, though sensible artificial weighting avoids over-lightness.

On the other hand, the Granada is inherently very stable, even on a windy day, demanding little correction at the helm in motorway driving.

Our car's optional leather upholstery (£463 extra) smelt marvellous, and was always a friend in hot weather, but it didn't do anything for poor seat support. Neither seat cushion nor wheel can be reset for height or rake, and the backrest lever is too coarse; but the good news is that 1980 Granadas are to share the latest Cortina's front-seat revisions, so hopefully our moans about backache after a longer spell at the wheel should be still-born.

Everyone found some minor controls or instruments out of sight, though the main dials are in clear view. It's terribly easy to leave on the heated rear window—its telltale just cannot be seen in daylight. Some minor controls seem too light—the intermittent-wipe, for example—whereas the lighting stalk and door-mirror remote-adjuster are too stiff.

The central door-locking provision is greatly appreciated—one twist of the all-purpose key in the driver's door secures everything, including the boot—but some ladies found the exterior door handles too stiff, and the boot latch is just as bad.

Deep windows ensure good all-round vision in daylight, and powerful halogen headlamps are a boon at night. We also approve of the high-pressure headlamp washers—an excellent system that avoids the complexities of extra wipers, and works only when the headlamps are switched on.

How comfortable

The suspension/tyre combination doesn't do as much for comfort as it does for cornering—a disappointing harshness about its town manners makes this top Ford nothing like as grand to float around in as the first Granada. On the open road, it's a different story: at speed, the car gets into its stride, its suspension feeling more compliant yet without wallow.

There's no doubt that this V6

engine is one of the most refined built. It never raises its voice beyond a pleasant hum, and, in this injected form, proves easy to start and amenable in the hurly-burly of town traffic.

Some road rumble and fascia creaks are generated by the TRX tyres, but wind noise is low—even the open sunroof does well at speed, although, oddly, there is some buffeting when going slowly.

The Granada Ghia treats rear passengers very well, with all life's little niceties in evidence—a rear courtesy light, extra radio speakers in the back shelf, their own ashtrays and lighter, plus a centre armrest. Legroom is what you would expect, and the wide back seat was more comfortable than the front ones on our car. The boot is big and of regular shape, with the spare wheel stowed upright to one side. There is a high load sill, however, and the boot is illuminated only when the lights are on—not always convenient, in our experience.

At the front, there is an open fascia shelf (Ford Fiesta style) and a roomy lower drawer, but there's little space for oddments in the centre console.

We did ask Ford to show us its factory-best, so our car benefited from air-conditioning—an expensive (£720) option. It supplements the standard heating and ventilation with refrigerated, de-humidified air when the fan control is pulled out one click. Easy to work and subtly effective, it extends the scope of an already discreetly efficient system. Efficient for those at the front, that is: the absence of rear outlets for heating or ventilation is a notable omission at this end of the price league.

It's worth noting, too, however, that the standard sunroof is a practical alternative to hot-day air conditioning; most Britons will find it meets their mid-summer needs.

How strong

Our test car was built before Ford announced its new anti-corrosion measures on everything from basic Fiesta to Granada Ghia, so we went back to Dagenham for a look at a Granada with the new measures applied.

It's early days, still, but 1980 Fords that we saw still disappointed in the way their treatment is skimmed on the production line. The flexible pvc under the wheelarches, however, is certainly better applied than before.

Some people complained about too much plastic being on view inside so expensive a car, but it does make the Granada an easy-clean proposition. The carpet too, responds well to brushing, but a lot of bits and pieces on the outside bodywork are something

of an obstacle course for sponge and leather.

Underbonnet accessibility is complicated by the fuel injection and refrigeration compressor, but Ford is making determined efforts to reduce servicing demands by use of electronic ignition, tougher valve-train components and maintenance-free hub bearings. In general, this Granada strikes a sensible balance between technical sophistication and simplicity—upper-class cars are often more complicated than garages can cope with. Granada reliability seems to be about average, but the Ford service back-up makes life easier for a troubled owner.

How safe

First impressions of the Ghia's brakes were marred by an unpleasantly long, spongy pedal action, but when really made to work for its living on a test track, the system produced better results than the firmer-pedalled estate of last year. The servo-assistance was more intelligently set to give maximum stopping power at an ideal 50lb push, and we especially approved of the tyres' ability to hold on to that efficiency, even if a panicky driver pressed rather harder. Fade is no problem, and the car sits secure on a 1-in-3 gradient.

Despite its rather lifeless steering, the car's cornering is safe and forgiving at the limit—not always true of big cars with semi-trailing arm rear suspension. This is the most-stable-cornering big Ford we have driven, thanks to the TRX tyres and special suspension.

Another optional extra on our Dagenham dream was a pair of rear seatbelts, which did their job well but felt very restricting. The front belts are less pressing, more convenient to latch. Behind its traditional West-of-England cloth headlining, the roof is well padded and the protruberant fascia, too, is impact-conscious. All Fords are now fitted with laminated windscreens (an excellent safety feature), leaving little to complain about inside the Granada. Outside, though, the fuel tank is too vulnerable to a rear shunt.

How much

Our 22½mpg is certainly respectable enough for a big six-cylinder car, and it's an improvement of 1½mpg over the carburetted Granada, placing the 2.8i close to the more-efficient of its rivals. A manual version would probably match the 24mpg of the Peugeot 604 Ti we tested in manual form.

It is not practicable to drive your Granada more than 270 miles before refuelling, for the gauge is well into the red by then, and there's no other low-level warning

FORD GRANADA 2800i GHIA AUTO

Front engine: 2792cc/V6cyl, OHV (chain); Bosch injection; 160bhp at 5700rpm
Rear drive: auto—3 ratios 20.7mph/1000rpm
Suspension: front—ind wishbones, coil springs, anti-roll bar; rear—ind semi-trailing arms, coil springs
Steering: powered rack and pinion; 3½ turns/35ft circle; 6in alloy wheels, 190/65HR390 Michelin TRX radials
Brakes: servoed discs front, drums rear

Parts/repairs (inc VAT)
auto transmission £290.69 (fitting 3hr)
exhaust £91.76 (1hr)
headlamp unit £30.45 (0.5hr)
front bumper £25.30 (0.4hr)
laminated windscreen £48.10 (1.5hr)
oil filter (no points) £4.31 (0.2hr)
major service 12,000miles (2.6hr)

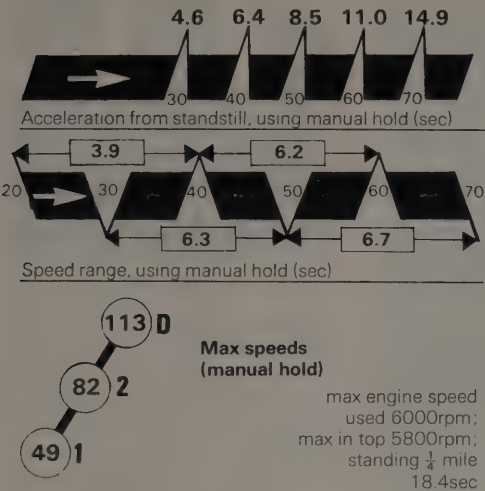
	per year	per mile
Running costs	£1194	9.95p
Loss of value	£768	6.40p
Total depreciation	£2988	24.90p
Insurance group	6	

HOW IT COMPARES

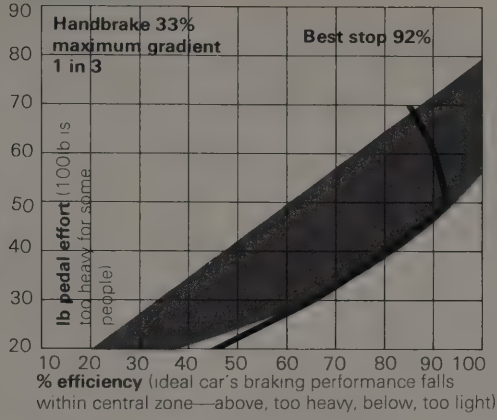
Ford Granada 2800i Ghia auto
Peugeot 604Ti
Rover 3500 auto
Audi 100 CD5E auto
Vauxhall Royale auto



PERFORMANCE



BRAKES



Fade test pedal pressure needed for 75% stop (ideal car would show no variation)
42lb at start; 28lb in constant use; 33lb in severe use
Watersplash 50lb at first, 2 stops to recover

FUEL 4-star/97 octane min
overall consumption 22½mpg
effective tank range 270 miles/12gal

Normal range of consumption

hard driving, heavy traffic	18mpg
short journey, suburban	18½mpg
mixed roads—brisk, 50mph cruising	23½mpg
motorway—70mph cruising	23½mpg
quiet rural—40mph cruising	26mpg

Consumption at steady speeds

30mph	34½mpg
56mph	26½mpg
70mph	23½mpg
100mph	16½mpg

SAFETY CHECKS O = factory fitted option

steering: energy absorbing?	Yes	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	Yes
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	Yes	doors: crashproof?	Yes
convenient?	Yes	childproof?	Yes
rear belts: fitted?	O	petrol: spillproof?	No
		brakes: failsafe?	Yes
		load sensitive?	No

ON-ROAD PRICE (£)	CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	0-60 (SEC)	30-50MPH BEST (SEC)	BEST STOP (% g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
10,143	2792	22½	113	11.0	6.3 (k/d)	92/50	15' 6½"	41	41	3½/35
9417	2664	24½	111	10.8	7.7 (4th)	92/45	15' 5½"	39½	41½	3½/35
9424	3528	22½	117	9.2	4.5 (k/d)	100/70	15' 5"	41	40½	2½/33½
9424	2144	22½	110	11.7	4.4 (k/d)	96/55	15' 4½"	41½	40½	3½/34½
9891	2784	21½	116	11.0	4.0 (k/d)	98/70	16' 0"	41	42	4/32

k/d = using accel kickdown 4th = 4th gear time on 5 speed box





HOW GOOD

At-a-glance

DRIVE's verdict on the Ford Granada 2800i Ghia auto, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●

FUEL ECONOMY

●●●●●●●

HANDLING/STEERING

●●●●●

COMFORT/REFINEMENT

●●●●

INTERIOR SPACE

●●●●●●●

PASSENGER AIDS

●●●●●●●

DRIVER AIDS

●●●●●●●

ACCIDENT/INJURY SAFEGUARDS

●●●●●●●●

RUST RESISTANCE

●●●●

RELIABILITY/EASE OF REPAIR

●●●●●●●●

or reserve facility. At the pump, the car takes all except the last gallon without a hiccup, but no locking cap is provided—a mean omission.

DIY Granada owners are probably more likely to be second-hand buyers, but anyone who looks under the bonnet will find that routine maintenance has been sensibly rationalised, although ignition and fuel systems are, of course, taboo for front-garden attentions. The handbook is more informative about maintenance than for any other car in the Ford range; why is it that manufacturers help only the rich to do their own servicing?

Longer term, you do pay more for your bits than a Fiesta man, but prices compare well with like-minded rivals from foreign parts—the Granada originates from W Germany, of course.

Over the last 2½ years, the Granada's new list price has nearly doubled—even without our car's 'extras'. This is nearly twice BMW inflation, and three times the rate of Volvo's price increases. It does help keep resale values high, but the old-Granada owner who goes shopping for a new one will discover that he has to spend considerably more than would be

needed to replace some of its rivals. Also, several of the foreign makes once undercut by the Granada are now little different in price—some offer a saving.

Insurance is Group 6 and running costs, even excluding depreciation, still work out at 50% more than a Ford Escort's.

Verdict

This top-of-the-line Ford is undoubtedly the best big saloon that FoMoCo has ever made. It is as fast as most rivals (barring its autobox's limitations), uses less petrol than its predecessors, and has most of the roominess and refinements that one has a right to expect in the five-figure market.

We were disappointed with the front seats and driving position, but Ford seems to be tackling this already. Ride comfort, too, is questionable at times, but there is that underlying feeling of solidity and wellbeing that big-car buyers esteem.

It is, however, twice the price of Ford's 1977 flagship, without being twice as good. And it is still a Ford.

Not that we think this last is a fault. But will the Merc man see it that way? Or the Jag man? Or the Volvo, BMW, big-Audi buyer, and so on?



There's a saying that, while all bulldogs are dogs, all dogs aren't bulldogs. And judging by the Everyman panel's reactions, it's true of cars, too, for we couldn't find one of the amateurs willing to spend so much money on, well... a Ford.

Technical studies teacher Graham Sparkes sank into the comfortable leather seats and then complained they were slippery. For £10,000, he also expected the seat cushion to move up and down. 'But the instruments are good,' said Graham. 'Plain and easy to read. I managed to confuse the rev counter with the speedometer, though.'

'The ventilation was good and the air-conditioning worked very well. Driving was easy and relaxing, though I found the power steering a bit disappointing at first—it didn't self-centre very well. The car did tempt me to do enormous speeds without realising it; and the handling is very good, it corners easily, and the tyres don't squeal. The brakes worked well, but felt spongy at first.'

'I liked the clean shape of the car but it isn't very distinctive. I wouldn't buy a Ford at that price.'

Housewife Claire Parker was also suspicious. 'I liked it... but don't Fords go rusty? I liked the look of the car—very clean and stylish, like a big Cortina.'

'I'm not over-fond of black upholstery, but the leather was luxurious and would beat fabric any day. There were a lot of gadgets, and none of them were gimmicks.'

'I thought the air-conditioning was lovely, and the instruments very clear. I felt in control of the car and enjoyed driving it.'

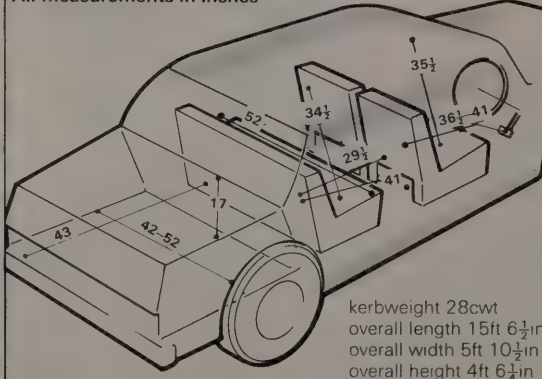
Air-traffic controller Ron Daly didn't like the plastic 'wood' trim, but, having said that, he added: 'It's almost the only fault that I can find. The other problem is that it's a Ford...'

'It looks good, goes well and is very comfortable, and there is nothing in its behaviour that would stop me buying one. The seats could have been better, but I was very comfortable. I liked the air-conditioning and the internal adjuster for the driver's door mirror.'

DRIVE car tester Peter Denayer comments: 'Our Everyman team appears to be more concerned with the car's badge than its actual performance. Perhaps the Granada didn't have enough time in their hands to show its merit.'



All measurements in inches





USED-CAR PRICE GUIDE

Just testing

FOR MOST OF US, our cars are a compromise—unless you are one of the lucky few who can afford a stable of cars to suit every need.

As it will also be most people's biggest cash purchase after their house, and may be lived with for just as long, it's important to get the compromise just right. And often the decision is made during a test drive, alongside a persistent salesman.

With secondhand cars, for example, a favourite seller's ploy is to claim that someone else also wants to buy the banger you've been admiring. If the car has a nasty boom period at 50mph, the salesman will give a demonstration drive at 60mph . . . and if the ventilation is dreadful, he'll simply leave a window open.

Don't be pressured. If the price is right and the car's condition is as it should be, then make good use of the test drive, just like the professionals do. For instance, if Mum often sits in the back, then take her along for a second opinion; and if the family pet goes everywhere, then try the dog out, too. (A dog is used on every DRIVE road test!) If you do most of your driving in urban conditions then make a point of traffic-jamming through town.

Politely ignore the salesman's chat and listen instead to the noises the car makes. If it's to be used on long journeys, then it will be much less exhausting for everyone in it if it's a silent mover. As a general rule—though rules can be broken—the bigger the engine, the quieter the car. And, if you're a motorway commuter, don't forget that your big engine may use up no more fuel than a little 'buzz-box'.

At the end of your test drive there is more to do. If you are a DIY man, look under the bonnet and assess whether *you* could look after the works. A complex layout could force you back to the dealer again and again, costing you time as well as cash.

Still undecided? Then say you'll think about it—don't try overhard to convince yourself into buying the wrong car. It does happen. We know of one DRIVE reader with a wife, new baby and two enormous Old English sheepdogs who thinks he wants a sports coupé—or does he?

So check your needs against some DRIVE roadtest reports, and then try beating the dealer down with our price chart of 100 of today's most-popular secondhand cars. Specifications are compiled from the AA tests, the reference numbers of which are shown in the table.

MAKE AND MODEL	AA Road Test Report No	Date	engine cc	mean top mph	acceleration 0-60 in sec	overall mpg	insurance group	MODEL YEAR							
								Average secondhand price guide							
								1979	1978	1977	1976	1975	1974	1973	1972
Alfa Romeo Alfesud 1.3ti	D5/78	3.4.78	1286	98	12.5	34.5	5	2875*	2725	—	—	—	—	—	—
Audi 80L	389	6.76	1297	91	14.2	31.75	5	4260	3420*	2700	2155	1735	1365	1040	—
Audi 100LS	314/RI 139	19.75	1761	100	12.7	29.25	5	4780*	4010	3370*	2305	1910	1585	1290	1040
Austin Morris Mini 850	340	5.74	848	73	26.1	41.0	1	2020	1740	1495	1280	1085	925	785	655
Mini Clubman saloon	410	1.77	1098	82	18.2	40.5	1/2	2465	2115	1820	1555*	1330	1125	960	805
Allegro 1300 Mk2 4-dr	377	2.76	1275	85	19.0	37	2	2860	2445	2075	1765	—	—	—	—
Allegro 1500 estate	RI 127M	19.75	1485	90	16.6	34.25	3	3250	2770	2350	1985*	1660	—	—	—
Maxi 1750 Mk2	263	1.72	1748	90	14.6	28.75	3	3310	2825	2410	2035	1725	1435	1205	995
Princess 1800HL	397	8.76	1798	96	14.2	29.75	4	3690	3420	2455	2080	1760	—	—	—
Princess 2200HL	RI 129N	19.75	2227	105	12.7	26.5	4	4085	3765*	2480	2080	1760	—	—	—
Marina Mk1 1800 4-dr	295	1.73	1798	96	12.8	31.5	3	3065*	2620	2240	1900*	1605	1345	1125	930
MG Midget Mk3	205	2.70	1275	93	14.8	29.1	4	2875	2425	2055	1735	1460*	1230	1035	875
MG8 Mk3	243	4.71	1798	105	11.8	23.9	6	3815	3370	2825	2380	1985	1660	1415	1190
BMW 520i	327	12.73	1990	111	9.7	29.0	S/R	—	—	5300	4310	3470	2775	2205	—
Chrys/Talbot Sunbeam 1.6S	D6/78	3.4.78	1598	95	13.9	33.5	3	3405	2905	—	—	—	—	—	—
Avenger 1.3 2-door	337	4.74	1295	93	19.0	30.5	2	—	2355	2015	1510	1290	1090	930	—
Avenger 1.6GLS auto	339	5.74	1600	93	13.9	26.5	4	3540	3035	2595	1905	1570	1330	1130*	—
Alpine S	381	4.76	1442	97	14.3	32.0	5	3745	3200	2725	2320	—	—	—	—
Hunter GL 4-dr	234	1.71	1725	86.5	15.0	28.7	3	—	—	—	1755	1480	1230	1025	840
Citroen 2CV6	RI 118	19.75	602	66	37.2	44.0	1	1835	1465	1235	1040	880	—	—	—
Dyane 6	366	3.75	602	70	29.5	47.0	1	1960	1555	1300	1085	910	760	635	520
GS Club	384	5.76	1222	93	17.2	33.0	4	2705	2180	1980*	1480	1205	980	795	630
CX2000	416	5.77	1985	107	12.7	29.25	6/7	4460	3515	2900	2380	2055	—	—	—
Colt Lancer 1400GL 4-dr	371	11.76	1439	94	12.9	34.0	5	3190	2650	2220	1850	1515*	—	—	—
Datsun Cherry 100A 4-dr	284	8.72	988	83	17.7	41.25	3	—	—	—	1580	1345	1135	965	810
120Y coupé	336	3.74	1171	86	17.7	39.0	4	3095*	2440	2090	1780	1510	1275	—	—
Violet 140J	RI 132M	19.75	1428	94	15.5	32.0	4	3015	2570	2080	1765	1485	1230	—	—
Bluebird 180B	316	8.73	1770	104	12.3	27.0	5	—	—	2090	1775	1495	1250	1045	860
Fiat 126	334/RI 138	2.74	594	62	60.0	48.5	1	1780	1530	1310	1005	860	725	615	—
127 3-dr Special	RI 137M	19.75	903	82	18.4	41.75	2	2530*	1935*	1785*	1400	1180*	—	—	—
128 4-dr	320	9.73	1116	86	15.5	34.0	3	—	1980	1680*	1430	1205	1010	850	700
131 1600S	369	6.75	1585	94	13.6	32.0	5	3240	3000*	2340*	1975	1655	—	—	—
132 1800GLS	360	1.75	1756	102	12.0	25.0	6	—	—	—	1925	1565	1420*	1000	—
Ford Fiesta 1000HC	417	4.77	957	83	18.4	41.0	1	2400	2150	1915	—	—	—	—	—
Escort 1100 Popular	RI 136M	19.75	1097	77	23.6	35.0	1	2215	2045	1765	1515	1305	—	—	—
Escort 1300XL 4-dr	292	11.72	1297	88	16.0	31.0	2	3000	2725	2350	2025	1735*	1290	1100	935
Cortina Mk3 1600XL 4-dr	323	10.73	1593	95	15.1	27.0	3	—	—	—	1960	1665	1415	1200	1005
Cortina 2000E estate	347/RI 116	19.74	1993	99	12.3	27.5	5	—	—	—	2495	2120	—	—	—
Cortina Mk4 1600	404	12.76	1593	89	15.3	27.0	3	3140	2795	2430	—	—	—	—	—
Capri Mk2 1600GT	342	6.74	1593	102	12.4	27.5	5	4020	3505*	2945	2525	2170	1865	—	—
Capri 3000 Ghia auto	RI 114	19.74	2994	113	9.9	22.0	6/7	5515	4875*	4040	3450	2915	2450	—	—
Granada 3000GXL auto	282	6.72	2994	108	11.7	21.0	6	7230	6115*	3740	3020*	2055	1560	1165	795
Honda Civic 1200 3-dr	362	3.75	1169	86	14.7	34.75	4	2630	2255	2015*	1640	1390	1170	—	—
Accord auto	420	5.77	1600	89	14.7	32.0	5/6	4010	3420	2895	—	—	—	—	—
Jag/Ro/Tri Jaguar XJ6 4.2	227	10.70	4235	117	10.0	16.75	6/7	—	9260	6610	5275	4160	3020*	2180	1835
Jaguar XJ12 (L) auto	305	4.73	5343	136	7.6	13.0	7	—	9310	7280	5670*	3915	3170	2080	—
Rover 2200SC	324	11.73	2205	104	12.2	24.0	4	—	—	3395	2800	2305	1885	—	—
Rover 3500 auto	330	2.74	3528	112	11.1	20.5	5	—	—	—	3320	2725	2205	1735	1390
Rover 3500SDI manl	428	10.77	3528	119	10.4	24.5	6	6240	5275	4410	3665	—	—	—	—
Range Rover	252	7.71	3528	101	13.2	18.0	5	10845	9705	8270	7405	6240	5225	4375	3615
Triumph Toledo 4-dr (Dolomite)	345/RI 150	19.77	1296	83	19.8	33.0	2/3	3060	2615	2220	1880*	1435	1220	1035	880
Triumph Dolomite 1850	288	9.72	1854	100	11.4	28.25	4	4035	3295	2800	2455*	1885	1560	1290	1040
Triumph 2000 Mk2	219	6.70	1998	95	15.0	26.0	4	—	—	2995	2480	2155*	1560	1290	1065
Triumph 2500TC	RI 112	13.74	2458	101	11.5	27.0	5	—	—	3095	2550	2180*	1685	—	—
Triumph Spitfire 1500	376	2.76	1493	97	12.5	35.25	5	3215	2765	2330	1955	1650	—	—	—
Triumph Stag	273	3.72	2997	118	10.2	22.5	S/R	—	—	5125	4185	3420	2750	2205	1735
Triumph TR7	401	11.76	1998	108	10.2	28.75	6	4060	3370	2675	2230	—	—	—	—
Lada 1200	355	7.74	1198	91	15.3	33.25	3	1940	1650	1400	1180	985	815	—	—
Lancia Beta 2000	RI 171	19.74	1995	107	11.2	26.5	6/7	4035	3345	2775	—	—	—	—	—
Mazda 1000 2-dr	343	6.74	985	78	20.0	33.5	3	—	—	1465	1245	1055	890	—	—
1300 hatchback	424/D4/78	7.78	1272	89	15.4	36.5	4	2705	2320	1980	—	—	—	—	—
Mercedes 280E auto	D/79	7.9	2746	120	9.4	21.0	7	—	11290	9360*	5695	4705	3890	3230	2600
Opel Kadett S estate 3-dr	338	5.1	1190	84	16.7	32.0	4	3005	2585	2400*	1890	1605	—	—	—
Ascona 1.9SR	302	4.73	1592	86	12.3	35.5	6	4000	3695*	2925*	2460*	1825	1495	1230	—
Rekord 4-dr	287	4.72	1897	101	12.0	26.0	4	—	—	2480	2080*	1735	1440	1165	995
Peugeot 104 4-dr	325	11.73	954	84	17.3	36.5	3	2545	2140	1815*	1545	1320	1130	980	—
304	386	5.76	1290	92	16.7	35.5	3	—	2630	2270*	1895	1580	1315	1100	905
504GL	RI 140	11.76	1971	99	13.7	27.75	5	4360	3540	2950	2455	2030	1685	—	—
504 estate	275	1.71	1971	98.5	13.9	24.5	5	5175	4345	3615	3020	2525	2080	1760	1440
Reliant Robin	365	3.75	148	73	19.0	47.0	2	2290	2100	1825	1585*	1205	1075	—	—
Scimitar GTE	303	3.73	2994	118	9.1	21.25	7	7230*	5920	4930	4085	3370	2775	2305	1860
Renault 4TL	RI 121	11.75	845	74	26.4	38.0	1	2310	1985	1665	1400	—	—	—	—
5TL	349	8.74	956	85	19.7	42.0	2	2575	2275	1915	1615	1365*	1150	980	—
5TS	370	11.75	1289	93	13.3	36.25	4	2995	2620	2215	1895	1610	—	—	—
6TL (1100)	364	3.75	1108	82	17.9	37.75	3	2670	2345	1975	1655	1390	1165	—	—
12L	385	5.76	1289	82	19.1	31.5	3	—	—	1870*	1590	1355	1135	955	835
14TL	414	3.77	1218	89	14.8	36.5	4	2955	2480	2095	—	—	—	—	—
15GTL	D5/78	19.78	1282	95	14.5	33.5	5</								

'The only time our village gets any peace

AS WE DRIVE into the 1980s, more than 500 small towns and villages across Britain are still waiting for bypasses. Many, such as Staplehurst, in Kent, were included in schemes first approved in the 1950s; some, like Conwy, Gwynedd, have been queuing since just after World War Two. Most have little chance of realising their dreams in the next 20 years.

The government has plans to complete 178 trunk-road bypasses by 1990; the rest are included in local-authority proposals. But, all over the country, hundreds of communities are living in everyday hells as lorry after lorry thunders along roads originally designed for the horse and cart. For them, the prospect of a quieter life becomes ever more remote: their bypasses aren't even on a building timetable.

With the current bypass and road-improvement backlog standing at £6000million-worth of work, and the impending spending cuts by government and local authorities on roads and transport, the picture looks even bleaker for villages at the mercy of heavy traffic. Villages such as Westoning, Bedfordshire, where a road tanker exploded in 1976 . . . and Holcot, Northamptonshire, whose narrow main street is under threat of becoming a feeder road to the M1.

And Tean in Staffordshire, where, after a string of accidents, residents walk in fear of their lives.

Miraculously, no one has been killed in Tean. But there have been some very narrow escapes—as Sam and Ellen Capewell, both in their late fifties, can testify. The cottage where they used to live was struck by heavy lorries four times between 1952 and 1969.

On each occasion, careering trucks, caught-out by the nasty camber on the main Stoke-on-

Trent to Uttoxeter road near the village's little bridge, smashed through a brick wall, caved-in the front door, and severely damaged the bottom of Capewell's house.

The last impact (see below) was the worst: when the lorry carried away the front wall, Mrs Capewell was upstairs in bed, teetering

above the wreckage. This time, the devastation was just too much; the cottage had to be pulled down and, for four months, the Capewells were homeless.

Last September, it was the turn of 67 Uttoxeter Road. Mabel Turland, a 63-year-old widow, was sitting quietly in her front room, chatting with a neighbour

and minding a 20-month-old baby when she heard a screech of brakes. A second later, the front of an articulated lorry burst through the wall, demolishing everything in its path and causing more than £3000-worth of damage (see page 46).

A week later, a police car escorting a wide load was in collision



DRIVE ACCESSORIES TESTS

Just add water

A NEAR-INVISIBLE nick in a radiator's hose can halt your car as effectively—and even as expensively—as a brick wall. For it causes an engine-killing combination of events, allowing the water to boil as the system's pressure drops, and letting it spew along the road . . .

Some motorists are cautious enough to carry an emergency hose-repair bandage, relying on such advertised claims as: 'Shrinks to a

waterproof seal as you wrap'. Not content with the manufacturers' claims, DRIVE's new Accessories Tests takes the wraps off the hose-bandage business.

We turned our experts loose on three readily available makes—Holts Hose-weld Bandage (92p), Simoniz Super-stik Automotive Hose Bandage (£1), and Rotunda Emergency Hose Seal Tape (82p).

Their tests were carried out on a Hillman Avenger—complete with a small slit in its top radiator hose—running at a constant 2000rpm (about 35mph). An AC cooling-system pressure-tester was used, along with new radiator caps of 10-, 13- and 15psi to monitor the coolant's pressure.

Tapes were applied using the



is when an accident blocks the road'

with a lorry coming from the opposite direction. The car was a write-off.

The year before that, in April, a car went into the wall of the recreation ground, just inches from the spot where two mothers were standing with their children. The same month, schoolboys had to jump over the bridge parapet to

avoid being mown down by a jack-knifing lorry. And there has been any number of side-swipes and near-misses.

Tean's trouble is that it lies on the A50, part of a direct link between the M1 and M6. A few miles from Tean in each direction, other villages, too, have had their nasty moments. At Checkley junior school, all children are banned from going home for lunch, and are not allowed out of the gate unless they are accompanied by a parent.

'There's at least one incident a week on this road,' says Mrs Joyce Plant, 39, from Tean. 'If it isn't lorries hitting houses, it's trucks shedding their loads. About the only time our village gets any peace is when an accident farther up the A50 blocks the road.'

That's not quite true, as Mrs Plant knows. Three times in the last five years, she and fellow-members of the Tean Valley Action Group have led marches that brought traffic to a halt.

These gestures of protest—two in 1975 and one in 1977—were born out of sheer frustration. For Tean has been waiting for its bypass since 1938, when plans were first drawn up—and immediately dropped because of the war. Now, like the other 500 small towns and villages across Britain, it could be 20 years or more before Tean can rest in peace. Eight years ago, the villagers were told that plans were in hand to link Stoke and Derby with a motorway (M64), and that this would solve the village's problems. But, in December 1977, the project was abandoned.

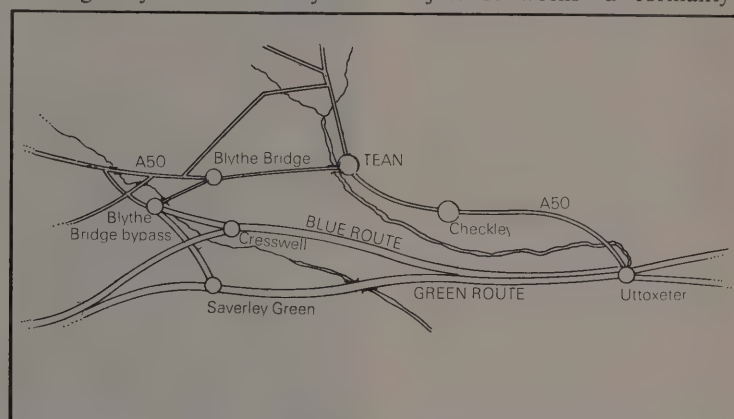
If a bypass was thought necessary in 1938, years before the M1 and M6 were there to be linked, why is the village still without one? That's what the long-suffering residents would like to know. Other towns and villages nearby

have won bypasses—Sudbury, on the Derby side (in 1973), Blythe Bridge on the way to Stoke (1975).

Just six months ago, the Department of Transport assured the people of Tean that their turn had come: it would do everything in its power to see that the latest scheme—an eight-mile dual-carriageway between Blythe

Bridge and Uttoxeter that would provide a bypass for Tean, Checkley and neighbouring Draycott—went ahead quickly.

The county council gave its blessing and, a month later, the draft proposals for the road were on the table. Work on Tean's long-awaited bypass would begin in just 10 weeks—a 'formality'



Plans and protests: above, the Department of Transport's 1976 pamphlet publicised 'Blue and Green' alternative routes round Tean; a further 'Pink' route all but followed the course of the A50. One year later, frustrated residents won a personal investigation from the then Transport Minister William Rodgers, below.



manufacturers' instructions supplied on the packaging.

It didn't take long to discover that the repair bandages weren't exactly watertight. All the tapes failed as pressure rose, and repairs often survived only because the radiator's cap was refitted very loosely.

The Rotunda tape was the only one to withstand any real pressure. Its repair remained intact at a cooling-system pressure of 10psi. The only snags are that many modern cars operate at pressures higher than 10psi, and that, every time the tape was tested on our rolling-road car, the tape-end came loose and flapped about.

These bandages, it seems, limit their usefulness to helping drivers

hobble, capless, to the nearest replacement-hose stockist.

Coming clean

A CONSTANT STREAM of clean water through a hand-held brush is certainly one of the best ways to tackle a dirty car. It isn't exactly a new idea, but it has been refined over the years, so DRIVE decided to look at what's currently cleaning-up.

We tested 10 brushes: the Duco (£3.31), Flexy Popular (£3.91) and Flexy Foambrush (£4.78), Listaflex Car Washer Set (£5.98) and Listaflex Standard (£6.46), Hozelock Car Care Brush (£4.63) and Hozelock with adjustable spray (£4.63), Klikfix (£5.45), Polygard (£3.75) and Husky (£3.75).

No matter how good your carwash

brush may be, you'll not even pick it up if it's tiring to use. DRIVE measured how tiring these brushes are to use by multiplying their body weight by their length: the lower the figure the better for the user's right arm. The Husky is the winner here, followed closely by the Klikfix. Overweight losers are the two Listaflex brushes.

We also looked for a high rate of water flow, as a mere trickle won't sluice away gritty dirt and can result in paintwork damage. Losers with unacceptably low flow rates are the

Polygard and the Flexy Foambrush.

It helps if the water goes only where you want it—on the car rather than up your arm—but both Flexy products leaked; the Popular through its handle moulding, and the Foambrush around its regulator tap. Other leakers were the Hozelock Car Care, the Polygard and the Husky.

Things improved when it came to testing wear resistance. Each brush was weighed, run over a rough surface for a total of some 11 miles, and reweighed. Though some weight

Listaflex Standard

Flexy Popular

Polygard



period to allow for any objections.

It wasn't, however, to be that simple: two residents of Checkley, Joan and Roger Stringer, launched a campaign *against* the route of the proposed road. This forced a public inquiry, heard in November, which achieved the very thing that most of Tean's inhabitants didn't want—delay.

How long a hold-up? Says Midlands Road Construction Unit (MRCU) official, Norman Hackney. 'If alterations are recommended, it could be 1982 before they are published. And if there should be another objection after that, the process could start all over again.'

Ominously, MRCU director Alan Brant adds: 'In any case, until the public-expenditure and roads papers have been published, it's impossible to say for certain whether there will be enough money for the bypass.'

It's an heavy blow for the bypass lobby, but Joan Stringer is unrepentant: 'There's no need to build a new dual carriageway and rip up the countryside. We would prefer to see the A50 upgraded, and affected villages such as Tean given a single-lane bypass.'

'Our objection may well slow things down for the residents of Tean, but we have a case, and it's our democratic right to state it. Anyway, our suggestion would be much cheaper—an important consideration when money for roads is so short. What's more,



The narrow-escape road. Top: in 1977, a load of high-speed British Rail train wheels made an unscheduled stop on the A50. Bottom left: protests about the 'Victorian' state of the A50. Bottom right: 63-year-old widow Mabel Turland's house.

we're backed by the local farmers.'

But why did the Stringers leave their objections to the 11th hour when the Transport Department had invited comment at a public exhibition three years earlier? Says Joan: 'The maps of the recommended routes were vague and their scale too small. There was no guidance, either, on how to submit alternative plans.'

Hackney replies: 'In fact, the scale was six inches to the mile—adequate in my opinion. True, we didn't specifically state that people could put forward different routes, but there was a section in the questionnaire for any other comments—and, at the time, this drew more than 50 proposals.'

He goes on: 'Protests are more and more frequent these days. The public is much more concerned about these matters. You also get people who object to roads in general—often they don't even live in the area concerned.'

The vicar of Tean, the Rev John Dodd, who paved the way for the setting up of the action group, 21 years ago, says: 'I am sorry for the farmers whose land will be swallowed up by the new road. But I do believe that human life is more important than fields.'

For the majority of Tean folk, all this is academic. Once more, it's a case of 'so near, yet so far'. Now, like the other 500 small towns and villages across Britain, it could be 20 years or more before Tean can rest in peace.

MIKE HILL

ACCESSORIES TESTS

loss was noted, this test revealed no great failures. The Listaflex Standard and the Hozelock Car Care showed some non-permanent distortion, and the Hozelock lost some bristles.

Our last special test was to drop each brush from a height of 6ft on to a concrete floor. After 10 drops, the adjustable-spray Hozelock had a cracked moulding, the Klikfix's moulding sheared at the handle end, and a small piece of moulding had broken off the Husky. The rest survived with slight surface marking.

All the brushes tested could be used with self-dispensing shampoo attachments, and with some—the Flexy Foambrush, both Hozelocks, the Klikfix, the Polygard and the Husky—soap tablets could be inserted in the handles.

The snag in these aids is that water flow has to be reduced to a trickle to

prevent the pellets of soap from dissolving too quickly. DRIVE reckons that the value of these devices is debatable, but our tester did think they helped to reduce washing effort and remove some paintwork stains.

But it's *using* the brushes to wash cars that is surely the most important and telling test of all. The results were as follows:

Duco—easy to use and robust. Unlikely to damage paintwork thanks to its good water jet for mudblasting. **Flexy Popular**—similar performance to the Duco's, but more comfortable to use thanks to its lighter weight.

Flexy Foambrush—clumsy and tiring to use. Its good, firm bristles tackle grilles well, but the water jet is suitable only for wetting. Has a tap that can't turn water off but can regulate its flow.

Listaflex Set—tiring and clumsy to use. The brush head is identical to

the Duco, but the rubber seal on its shampoo dispenser appears badly designed, and split during our tests. **Listaflex Standard**—clumsy and tiring to use. Good mud-cutting water jet, and its soft bristles are kind to paintwork—but not so good for grilles.

Hozelock Car Care—similar design to the Flexy Foambrush, but lacks its water jet facility, and the bristles are too soft.

Hozelock (adjustable spray)—firm bristles and narrow shape make this the winner for grilles and wheel trims, but sharp angles on the brush could catch on chrome trim or mark paintwork. Waterflow can be controlled, but the jet is powerful enough only for wetting.

Klikfix—very comfortable to use. Firm bristles are suitable for crevices, and the cut-off valve worked well when changing to the mud-cutting

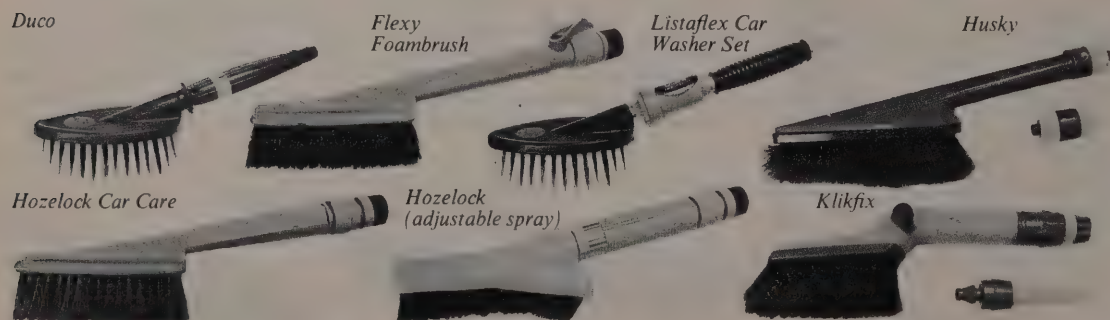
jet—which proved very effective. **Polygard**—similar design to the Flexy Foambrush. The tap in the hose connection can regulate flow only, not turn it off, and the jet is suitable for wetting only.

Husky—lightweight, but tiring to use. Bristles are on the soft side, and its tap did not regulate the flow sufficiently—it's either full on or full off—and our tap eventually jammed. The separate high-pressure jet was time-consuming to fit, but effective as an underbody cleaner.

It seems that there's no such thing as a brush for all reasons, but if we could spend someone else's money we'd probably buy . . . the Klikfix. At least, we would if we wanted a good-looking brush that can be loaded with soap, but we'd have to be careful about not dropping it too often.

But, if *our* money were involved, then we'd opt for the Duco—a no-nonsense brush that did everything it was supposed to do. It didn't come with a soap dispenser, but one of another brand could be added at a later date.

DRIVE didn't like the long, thin, plastic brushes such as the Husky as they proved too much like hard work and, as a general rule, we'd avoid all those with an on-off tap. Use it, and you'll have full mains pressure on all your hose connections—and something's got to give.



Avant-garde Rover rival

When Herr Ferdinand Piech designed the 240mph Porsche 917 (for his uncle, Dr Porsche), he was a young man. And, while the car went on to win two world sports-car championships, Herr Piech noticed certain shortcomings when it came to selling the car to the rest of us...

So, says Audi's advert, young Piech came up with something a little more practical—if in some ways just as much of an oddball. Indeed, the Audi 100 is unique in being the only petrol-driven car that's powered by five cylinders. Five was Audi's simple way of ditching its four-cylinder lump, and avoiding the cost of designing a six-cylinder replacement.

DRIVE has already been up-market with a fuel-injected, automatic version—now around £8200—and found it very civilised. Picking the GL5S in manual form,

Audi 100 Avant GL5S

Price £7120. On the road £7319

with its twin-venturi carburettor, can save £900 and a lot of servicing complications, but what do you lose? We chose the Rover-rivalling Avant five-door hatch-back for the answer.

How it goes

The Avant's automatic choke is operated by flooring the accelerator before starting. At temperatures above 50°F, this need only be done once, but twice when it's colder—so keep a thermometer handy! It sounds complicated, but the 2litre engine always fires readily and runs smoothly from the start.

'Drives like a six...' is Audi's claim for the five-cylinder unit. Well, driven flat-out on the test

track, it does assail your ears with a delightful, mechanical roar that's reminiscent of a six-cylinder Jaguar, muscling its way eagerly to the 6200rpm red line. When the revs are down, however, the Avant betrays its odd-pot design. While it is capable of pulling in top gear from 20mph, it does so less smoothly than the latest Ford V6—and no better than a BMW straight-four. In fact, top gear acceleration times are relatively unimpressive, with 30–50mph taking 10.7sec see our rivals on page 49.

To get more-stimulating times, the short, stubby gear lever needs frequent and intelligent use. Our test Avant proved to be fractionally faster than the fuel-injected

GLE automatic saloon that we tested last summer—despite being 31bhp down. With a 0–60mph time of 11.3sec, it can shrug off contenders like the BMW 520 and Renault 20TS, while the home-grown Austin Morris Princess 2200HL doesn't get a look in.

While the gear shift's movement is slick, it also feels rubbery, but the main obstacle to rapid gear changes is the clutch pedal: it has to be floored, yet a wide left foot can catch on the footrest provided.

DRIVE's Avant came without the £400 option of power steering, and, on reflection, we wouldn't have had it any other way. The unassisted steering offers a good degree of road 'feel'—surprising, when it's realised that it's VW/Audi's familiar negative-camber system, which usually numbs most steering feel in the quest for



good directional stability. However, DRIVE's testers are sturdy lads, and could well imagine some frailer and more-elderly drivers finding the system's weight too tiresome around town.

Despite the welcome tilt adjustment for the driver's seat cushion, our testers' initial impression was of sitting too low down. The feeling does pass, and it soon becomes clear that the driver is a VIP in this car.

Instrumentation is first-rate, with all dials in clear view beneath a deep cowl. The big three are tachometer, speedometer and accurate quartz clock, and among the supplementary gauges is an 'econometer'—a vacuum-operated, uncalibrated indicator of the Avant's fuel economy. Whether it is anything more than a gimmick on a Rover-sized car with a top speed of 108mph is another matter . . . Among the nine operational warning lamps (there are three blanks) is one which warns drivers to ease off the throttle until the engine has reached its correct operating temperature. Audi owners are not expected to do too much thinking for themselves.

Four column stalks sound like too many. In Continental fashion, the Avant's indicator, (coupled to the dipswitch) is on the left of the steering column, behind a shorter stalk that switches the lamps. On the right sprouts not only the wash-wipe stalk (two speeds, an intermittent setting, plus headlamp washing), but also an almost-too-handly stalk for hazard warnings.

Foglamps and high-intensity rear lamps are standard on the Avant—as is the rear screen's wash-wipe—all operated by rocker switches that lurk low on the fascia and prompt newcomers to say 'Wouldn't it be nice if . . . ' before discovering the hidden extra's whereabouts.

How comfortable

When we tested the 100GL5E, we were less than happy about the car's ride, and the Avant is no advance. Owners of lesser marques would certainly be impressed by the big Audi's road manners, but we suspect that some moneyed executives will demand better things. Built for sweeping along billiard-smooth autobahns, the Avant can jar its occupants over Britain's B roads, and can feel literally all at sea over a series of undulations. The ride reminded us of a big Golf, and though that's good it cannot approach the versatility of a big Citroen or Peugeot.

Rover almost invented the up-market hatchback, and Audi has sacrificed 4in off its big saloon to make the Avant a rival. It's claimed that Audi passengers

are treated equally well in either version; but DRIVE's tape measure showed that the Avant's rear-seat legroom is reduced. However, this is a big car, and only a family of six-footers would notice the difference. The seat's shaping and support is sumptuous, with room enough for five and a centre armrest to help back-seaters. The décor may look restrained— austere, even—but the colour-keyed, pastel interior is all part of Audi's grand safety plan: it helps to keep the driver relaxed.

The Avant's *raison d'être* is its fifth door. Some drivers with lofty ideals did complain that the tailgate doesn't open sufficiently far, but the more-serious problem is the high lip at the mouth of the luggage area. Loads have to sit on top of the spare wheel's well but the front-wheel-drive design still enables Audi to offer a load height of 30in—3in more than the rival Rover's.

In all, the Avant is an object lesson in producing a big-load carrier without compromising the quality of trim. It could hardly be easier to fold the rear seat and remove the back-shelf canopy, and thoughtful touches include two compartments on either side of the load space for tools and the rear washer's reservoir. The latter will rarely need refilling as the rear screen doesn't attract dirt.

Audi claims that the heater could warm a house, and it certainly is quick to respond to the driver's demands. It's also claimed that the ventilation system can change the air in the car every 15sec—even when stationary. Certainly, as the fan whips up a gale through no less than seven vents that span the width of the fascia, you can believe it's true. The system coped so well with a very warm day, when all the windows were shut, that passengers asked if this was 'real' air-conditioning. It's not, but it is one example of Audi's many attempts to keep the driver fresh and alert, and therefore safe.

The five-cylinder Audi is certainly as smooth and quiet as the very best of four-cylinder makes, and at least as unobtrusive a worker as the V6-powered Peugeots, Renaults and Volvos, but it can't yet match a six of the best.

That said, Audi has obviously gone to great lengths to insulate against noise—so much so that we failed to provoke body resonance at any speed. At motorway speeds, the test car's wind noise was so slight that a back-seat passenger had to crane back into the load area to detect its presence around the fifth door's frame.

How strong

Everywhere there are signs that the Avant is built to look better

longer, such as pvc strips to protect the hemmed seams along door edges. Front and rear screens are also bonded into place to add to the body's torsional strength.

DRIVE has long been impressed by the build-quality of Audis, and even if (as we have seen on some models) corners can sometimes be cut, the responsibility won't be yours. Putting its money where its mouth is, the company has introduced the farthest-reaching car warranty yet—a six-year anti-rust deal that covers all Audi's body panels.

Corrosion protection is certainly extensive. The entire body—including all cavities inside stress-bearing chassis members—is electrophoretically coated in anti-corrosive primer paint. Zinc-emulsion paint is also applied to the areas under the greatest threat of corrosion. All hollow box-sections are then sealed and the entire underbody and wheelarches coated with pvc.

With 14,000 miles on our test car, the only rust visible was on the road wheels—presumably not covered by the warranty. Audi paintwork is very good indeed.

How safe

There was less of the unnerving free pedal travel in the test Avant's brakes than we have seen in other VW/Audis, and other brake changes have also been made for the better. Servo-assistance now builds up more gradually, enabling easy stops without a slide: a 97% efficient stop for 80lb pedal pressure is good. Brake fade is well controlled, but seven stops to dry the discs and drums after a soaking are far too many.

Because Audi anticipated (wrongly) the tightening of US safety regulations, the Avant is one of the few cars now able to pass the 40mph solid-barrier crash test—thanks to two square-section tubes at the front that are designed to concertina evenly in a shunt. Strong pillars also take the Avant's roll-over safety features well beyond current American requirements.

Interior padding looks good, too, apart from shortcomings in roof padding—behind the visors, for example. The petrol tank is tucked safely in front of the rear axle, head restraints are standard, and the windscreen is laminated as well as being tinted a restful bronze.

Pressed to the limits of its tyres' adhesion, the Avant's tail only threatens to overtake its nose. All that really happens is that the car runs gently wider as cornering speeds increase, and backing off the throttle when halfway round a bend produces nothing more dramatic than a safe

AUDI 100 AVANT GL5S

Front engine: 2144cc/5cyl, OHC (belt); one twin-venturi multi-jet carb; 115bhp at 5500rpm
Front drive: 4 gears; 18.9mph/1000rpm
Suspension: front—ind MacPherson damper/struts, coil springs, anti-roll bar; rear—torsion-beam dead axle, trailing arms, coil springs, Panhard rod
Steering: rack and pinion, 4 $\frac{3}{4}$ turns/35 $\frac{1}{2}$ ft circle; 5 $\frac{1}{2}$ J wheels, 165SR 14 radials
Brakes: servoed discs front/drums rear

Parts/repairs (inc VAT)
clutch £107.79 (fitting 3.2hr)
exhaust £101.92 (1.1hr)
headlamp unit £77.91 (0.5hr)
front bumper £57.71 (0.4hr)
laminated windscreen £134.04 (3.15hr)
oil filter and points £4.97 (0.6hr)
major service 10,000 miles (2.5hr)

	per year	per mile
Running costs	£913.76	7.61p
Loss of value	£485	4.04p
Total depreciation	£1630	13.58p
Insurance group	7	

HOW IT COMPARES

Audi 100 Avant GL5S

Opel Rekord Berlina

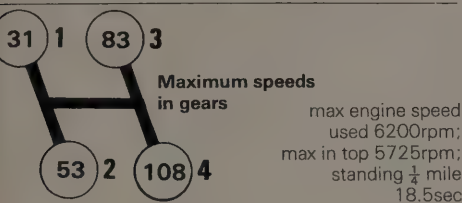
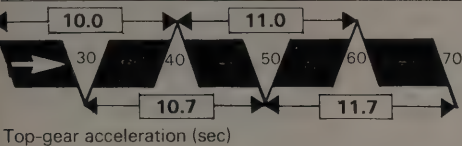
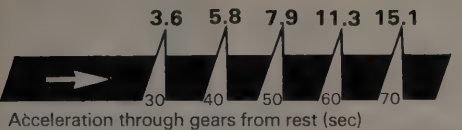
BMW 520

Austin Morris Princess 2 2200HL

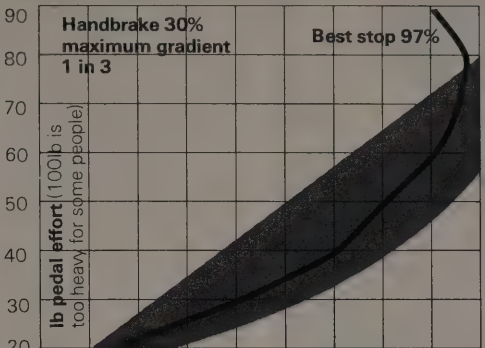
Renault 20TS



PERFORMANCE



BRAKES—pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone—above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)
45lb at start; **42lb** in constant use; **55lb** in severe use
Watersplash **60lb** at first, **7** stops to recover

FUEL 2-star/91 octane min
overall consumption 26 2/3 mpg
effective tank range 300 miles/11 1/2 gal

Normal range of consumption

short journey, suburban	19mpg
hard driving, heavy traffic	22mpg
mixed roads—brisk, 50mph cruising	26mpg
motorway—70mph cruising	27 2/3 mpg
quiet rural—40mph cruising	31mpg

Consumption at steady speeds

30mph	42 2/3 mpg
56mph	33 1/2 mpg
70mph	27 2/3 mpg
max mph	17 2/3 mpg

SAFETY CHECKS 0 = factory fitted option

steering: energy absorbing?	Yes	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	No
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	Yes	doors: crashproof?	Yes
convenient?	Yes	childproof?	Yes
rear belts: fitted?	0	petrol: spillproof?	Yes
		brakes: failsafe?	Yes
		load sensitive?	Yes

ON-ROAD PRICE (£)	CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	0-60MPH (SEC)	30-50MPH IN TOP (SEC)	BEST STOP (% g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
7319	2144	26 2/3	108	11.3	10.7	97/80	15' 0 3/4"	42 1/2	39 1/2	4 1/2/35 1/2
5809	1979	28	104	12.2	11.2	100/55	15' 1"	40 1/2	41 1/2	4 1/2/34
7983	1990	24 1/2	109	11.9	11.3	90/40	15' 2"	39 1/2	40	4 1/2/33
5482	2227	27 1/4	103	13.8	10.4	97/45	14' 7 1/2"	41	42 1/2	3 1/2/37
6339	1995	29 1/2	104	12.8	10.1	98/50	14' 10"	42 3/4	40 3/4	3 1/2/37 1/2





return to the intended course. We were pleased to note that the steering's self-centring now seems more dependable when emerging from tight turns; early Audis had a sometimes-embarrassing tendency to stay on lock.

The self-stabilising steering and braking systems, now common to all VW/Audis, should also help to keep owners on the straight and narrow when one tyre hits a greasy patch, or deflates.

How much

Audi considers it fair that owners should pay more to get more. Judging by the sales figures, it's a view that earns a lot of support in this price bracket.

The company charges almost £300 extra for the fifth door, and initial depreciation is expensive, too—though we know of owners who get round that by keeping their cars for several years. Insurance reflects parts prices as well as pace, and big Audis generally are rated as Group 7.

Our fuel-injected Audi 100 had been a thirsty beast, so we were keen to see how it would fare with a carburettor. Another feature new to us was its 'hedgehog'—a

spiky heating element in the intake manifold that heats up within a few seconds of switching on the engine in an attempt to reduce fuel consumption during the thirsty warm-up period.

It didn't quite meet Audi's claim of a 30% saving. In short-journey use the Avant is surprisingly greedy, slurping a gallon of fuel every 19 miles. Our Avant was 2-3mpg thirstier overall than Audi's old, excellent four-cylinder model—but remembering that the Avant thrives on a diet of 2-star helps narrow the financial deficit to the equivalent of 1mpg. This just about justifies the other half of Audi's claim: '... drinks like a four'—but the class leader among the sixes is still the Austin Morris Princess 2200.

We advise owners of fuel-injected Audis to leave maintenance to the experts, but with the carburettor version, DIY mechanics will be able to tackle many of the routine jobs. A full service is required only once a year, or every 10,000 miles, with an oil change and visual check at the halfway mark. The chassis, suspension components, drive-shafts, wheelbearings, steering and gearbox require no maintenance at all.

Verdict

The original four-cylinder Audi 100 earned an unusual reputation for performance with economy—odd virtues to find in a safety-orientated luxury car. Sales figures, too, were abnormal for this end of the market, with Audi selling 800,000 cars.

And if Audi had worries that the world might find its compromise of five cylinders odd, too, well... it can now laugh its way to the bank. In just two years, 75,000 five-cylinder cars have found appreciative drivers—DRIVE included.

The five-door treatment has done no harm to the 100, either. Almost half of the potential Audi customers asked said that they'd like the fifth door facility. So the 100 Avant is a first-class passenger express that can haul like a goods train when needed.

Yet another happy compromise.



Germany's answer to the Rover 2600 could hardly fail to impress our Everyman team, though not everyone had stars in their eyes for the big Audi.

'I think it was a very well-finished car,' said Claire Parker. 'The luggage compartment is massive with the rear seat down, and even with the seat in position I could easily get my two dogs in. The only criticism I have of its handling is that it's much too heavy. It was nice on the motorway, but if I had to steer it through London, it would wear me out. It was happy at low speeds, and it was quiet; and when you want to get a move on it also has a nice, sporty feel. I don't think the price is too high, but it isn't my sort of car.'

'I liked the shape of the car,' said Graham Sparkes. 'It follows the same style as the Passat. The finish was good, and so was the paintwork; I had a look underneath and I was impressed there, too. I found the driving position was difficult because the clutch pedal's travel was very long. I needed to sit well forward to push it down. If the steering had been adjustable for rake, it could have been better, too. The brakes felt so spongy that, if mine were like that, I'd bleed them; but I liked the way the Avant soaked up rough road bumps. The oil temperature gauge is very useful, too, for the many owners who want to tow a caravan.'

VW Golf owner Ron Daly admitted a bias to the Audi breed. 'It's so big you could have a party in it. I liked its performance—quiet and effortless—and it sat on the road well. I sat in it as a passenger when Graham drove over a row of potholes, and I didn't feel a thing. I had trouble only with the gear change—there was a lurch every time I changed gear. I did find the steering heavy, though I could live with it, but I'd expect a near-side mirror—surely Audi need not be so mean? But isn't it well put together? No rattles or creaks. Come back in 20 years' time, and I'll be driving something like the Avant.'

DRIVE car tester Bob Oxford comments: 'I sympathise with Claire's reaction to the heavy steering, but, having driven a power-assisted version, I can say that I prefer the test car's ability to tell me what the front wheels are doing.'

HOW GOOD

At-a-glance

DRIVE's verdict on the Audi 100 Avant GL5S, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●●●

FUEL ECONOMY

●●●●●●●●

HANDLING/STEERING

●●●●●●●●

COMFORT/REFINEMENT

●●●●●●●●

INTERIOR/BOOT SPACE

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PASSENGER AIDS

●●●●●●●●

DRIVER AIDS

●●●●●●●●

ACCIDENT/INJURY SAFEGUARDS

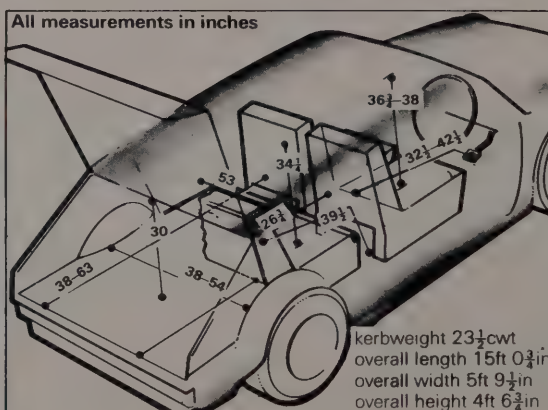
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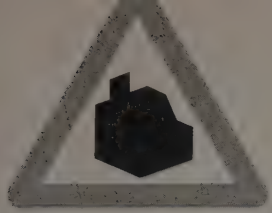
RUST RESISTANCE

●●●●●●●●

RELIABILITY/EASE OF REPAIR

●●●●●●●●





CONSUMER AFFAIRS

Contraction pains

First in a new series of columns by ANTHEA WORSNALL, a 33-year-old solicitor who, until last year, was legal adviser to the Society of Motor Manufacturers and Traders DAVID GREEN was feeling pleased as he drove home. He had just ordered his new car from a local dealer, and had somehow managed to pay the deposit. With a bit of luck, he would take delivery in time for the family's holiday in Cornwall.

His happy mood was shortlived. As David turned the corner into his road, he saw smoke coming from his kitchen window... The chip pan had caught fire, and the newly

decorated kitchen was ruined. It wouldn't have been so bad if the house hadn't been under-insured, so he was forced to agree with his wife that the new car would have to wait until they could find the cash to refurbish the kitchen.

The car salesman was very sympathetic—but unmoved: 'No, I'm sorry, but there's no way you can cancel and get your deposit back. As you've signed the contract you have to have the car.'

Unfortunately for David, the salesman was absolutely right. The order form he had signed was a legally binding contract, and he couldn't get out of it simply because he'd changed his mind—however good the reason.

Experience has taught car dealers to phrase their new-car contracts carefully, but even so the customer can sometimes win. If the dealer agreed a specific price—with no provision for a price increase—and a fixed delivery date, the lucky buyer has no problem. The contract can be cancelled after the delivery date has passed, and any deposit paid can be recovered because of the dealer's breach of contract in failing to deliver

the new car on time. What's more, if the contract contained no provision for a price increase, the dealer would be bound to sell the car at the price originally agreed—despite any subsequent increase.

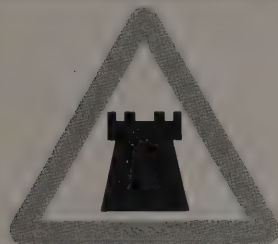
Most dealers, however, will insist on the customer signing a standard new-car order form, which will protect the dealer in this situation. It is very likely, for example, that no delivery date will have been entered on the form—regardless of what the salesman may have said. It will probably quote delivery as being 'as soon as possible', or words to that effect.

This makes the legal position unclear as, though the law provides that goods must be delivered within a reasonable time, there is obviously room for argument as to what is reasonable. It is likely to depend on the sort of car involved, its specification and any special features, as well as the length of time that the order has been outstanding. If the delay is unreasonable, then the order can be cancelled and the deposit recovered.

The salesman may have been more forthcoming about a delivery date during his sales talk than when he

actually filled in the order form. Unfortunately, proving what he said is always difficult, and it could also be difficult to prove that anything said formed part of the contract. It might be possible to claim that the promise of a delivery date was a misrepresentation, which might entitle the customer to cancel without waiting for an 'unreasonable' delay. But a court is unlikely to have much sympathy for a customer who claims that he believed a promised delivery date of six weeks, when he later signed an order form providing for delivery 'as soon as possible'.

Price increases are more straightforward. The motor industry code of practice requires that new-car order forms should show clearly the price to be paid. Many dealers' order forms will then go on to provide that the price quoted is subject to any increase coming into effect before the delivery date, and that the customer will be notified of the increase and will then have the option of cancelling his order within a certain period. If it is not cancelled, or if the form contains no cancellation option, then the customer has to pay up.



INSURANCE

Your responsibility

HOW WOULD most drivers react to the news that their insurance companies do them a favour once every year? Probably, the gales of laughter would vary in proportion to the size of their renewal premiums. Yet it's precisely at renewal time that the motor insurers do their clients a favour, for, surprisingly, there is no legal obligation on the companies to jog their drivers' memories.

It's the responsibility of the motorist—and no one else—to ensure that he is properly insured whenever he drives, and forgetting the renewal date, ignoring a reminder—or even failing to receive it—will cut no ice with the police.

Postal communications have been known to go astray, and policyholders can forget to advise their insurers of a change of address. In the case of such genuine oversights, most insurers will accept a premium tendered as soon as practically possible, and may even be willing to handle a claim arising during the uninsured period. There are, however, circumstances in which the insurance companies may justifiably be less tolerant: when, for example, a motorist relies on one company's temporary cover certificate while

negotiating for cheaper insurance elsewhere. Temporary cover given on a renewal reminder operates only on the understanding that the policy will be renewed—a lesson learnt the hard way by one driver.

It was the size of the renewal premium for his Citroen CX Safari that sent Surrey antiques dealer David Morris round to see an insurance broker friend. After mulling over his advice for a couple of days, Morris posted the broker a signed proposal form and cheque for a far cheaper policy, and drove off—into the back of a lorry.

Confident that the last few days of his old company's renewal reminder cover would protect him, Morris sent in a claim, only to discover that nobody wanted to know. His former insurers denied liability, and his new company had not yet told him that his proposal had been accepted. The repair bills for his estate and the lorry were an expensive way of discovering that changes of policy should be completed well before the expiry date.

Whether renewing or changing your policy, it is also worth double-checking the details of the risks that you've told your insurers about. These, too, are entirely your own responsibility—and ignored at your peril. It's the duty of the applicant to disclose all facts that could influence an insurer in deciding whether or not to accept his proposal, and his signature warrants the truth of the answers on the form.

Both proposal forms and renewal notices should now contain warnings about the duty of disclosure, in the hope of preventing horror stories such as the one about the man who left it to the salesman to tax and insure his new car.

When the car was written-off in an accident, shortly afterwards, the

owner revealed on his claim form that he had a two-year-old conviction for dangerous driving. It wasn't mentioned in the proposal form simply because the salesman had not asked him. That omission cost him a new car, for the insurer rejected his claim on the grounds of

non-disclosure.

There was no excuse, because he had not troubled even to read and check what the salesman had written before signing the form, thereby ignoring his personal responsibility—and he paid the price.

RONALD BEALE

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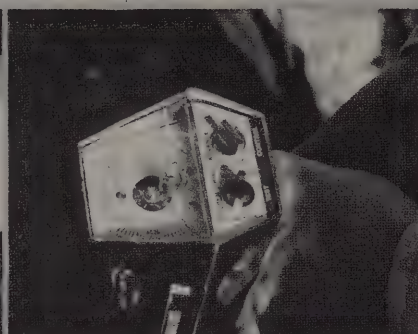
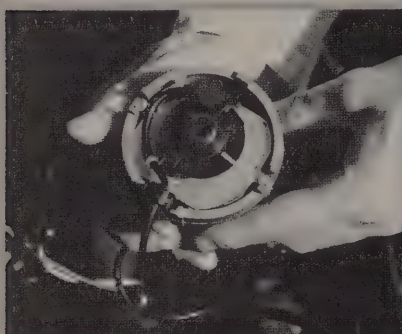
FIX YOUR CAR

Save Money With a Haynes Manual



Your starter for 25% off—the Piranha contactless ignition system. Below is a Piranha-equipped distributor. Below right: a diagnostic check is recommended.

Save £11



Winner on points

THERE ARE few things more frustrating than an engine that won't start. And, according to the AA, nearly 25% of all breakdown call-outs in winter are to members with ignition problems.

So our Special Offer of a Piranha contactless electronic ignition system couldn't be more timely. For, once fitted, it will eliminate troublesome contact points and their condenser—common causes of starting troubles. And that's not all: it will improve your car's fuel consumption towards the end of the period between services, simply because it ensures that the engine stays in tune. It also increases reliability, and is maintenance-free.

The Piranha system carries the AA's Seal of Approval, and it can be yours for £11 off the recommended retail price of £45.43 (including VAT) by completing the DRIVE Special Offer coupon below and handing it to any dealer on the list opposite. The system is guaranteed for two years or 100,000 miles—whichever is the earlier.

Fitting, diagnostic check and any necessary adjustments carried out by a listed dealer are extra.

DRIVE Piranha Contactless Electronic Ignition Offer

In presenting this completed coupon to a Piranha fitting and service agent, I confirm that I have received the allowance of £11 off the full recommended retail price of £45.43 (VAT included) against the purchase of one Piranha contactless electronic ignition system.

Customer's name _____
(BLOCK CAPITALS, PLEASE)

Address _____

Telephone _____

Enter AA membership number below, or write 'non-member'

Name of Piranha fitting and service agent _____

(Offer closes 16 February 1980)



Piranha approved fitting and service stockists:

LONDON & HOME COUNTIES

Aylesbury, Bucks The Aylesbury Tappet, 48 Buckingham Street. Tel. 85359

Basingstoke, Hants: Barnes Wallace Accessories, 2 Insley Clo., Kingsmill Rd. Tel. 53887

Bracknell, Berks: Autocross (Bracknell), Broad Lane. Tel. 22220

Bromley, Kent: Downham Auto Spares, 446 Bromley Road, Downham. 01-697 4419
J.W. Speedparts, Jack Whitehead Ltd., Southlands Road Garage, 249 Southlands Road. 01-460 7382

Chelmsford, Essex: Tricentrol Limited, Robjohns Road, Widford Industrial Est., Chelmsford 64111
Chiddingfold, Surrey: Manns Garage Ltd., Petworth Rd., Wormley 2263

Epsom, Surrey: Allam Motor Services, 48 Upper High Street. Tel. 25920

Gillingham, Kent: The Drive In (Silencers) Ltd., 178 Rainham Road. Tel. Medway 51955

Kidlington, Oxon: Hartwells of Oxford Limited, Oxford Rd., Kidlington 4363

Kingston, Surrey: V. W. Derrington Ltd., 63 Alfred Rd. 01-546 5621

London N8: Turnpike Motors, 20a High Street, Hornsey. 01-348 1246
London NW2: Chris Montague Carb Co., 380 Finchley Rd., 01-794 7766

London W8: Macedo Motors, 14-16 Pembroke Mews. 01-937 4090

Mitcham, Surrey: Mitcham Motors, 472 London Road. 01-648 3865

North Benfleet, Essex: Mowatt Motor Engineers, Pound Lane. Tel. Basildon 726225

North Weald, Essex: King's Head Garage, High Road. Tel. 2545

Reading, Berks: Autotune, 18 Tower Close, Emmargreen. Tel. 479781

Romford, Essex: Trio Auto Services (Romford) Ltd., 91 Albert Road. Tel. 62369

South Harrow, Middx: Alfista Motors Ltd., 10 and 13 The Viaduct, Sherwood Road. 01-422 4594

Stevenage, Herts: Tucker-Peake Cars, High Street. Tel. 54361

Sunbury-on-Thames, Middx: Wheelspin Sunbury, 29 Staines Road West. Tel. 89186

Woking, Surrey: Boundary Garage, 161 Goldsworth Road. Tel. 73539

MIDLANDS

Birmingham: Lawrence's Garage, Wilton Street, Lozells. 021-554 3018

Brierley Hill, W. Midlands: Aldon Automotive, Brener Ind. Est., Station Dr., Off Brettell Lane. Tel. 78508

Coventry: C. & E. Motors Ltd., 200 Fletchamstead Highway. Tel. 77222

Leicester: Roberts & Brooks, 1309 Melton Rd., Syston. Tel. Leicester 609966

Nottingham: Nottingham Rd. Service Station, Nottingham Rd., Basford. Tel. Nottingham 701457

Wellingborough, Northants: York Ward & Rowlett, Oxford Rd. Tel. 222403

EASTERN COUNTIES

Cambridge: Aylestone Auto Electric, Aylestone Rd. Tel. 358096

East Dereham, Norfolk: Autocare,

29 Quebec Street. Tel. E. Dereham 5651

King's Lynn, Norfolk: John Brundle (Motors) Ltd., Fourways Garage, Tottenhill. Tel. King's Lynn 810406

Spalding, Lincs: Neil Brown Engineering Ltd., Branton Bridge, Bourne Road, Spalding. Tel. 3052

WEST OF ENGLAND

Bristol, Avon: Hoopers of Bristol Ltd., 1 Maypole Square, Church Road, Hanham, Bristol. Tel. 676563

Gloucester: Motorworthy Ltd., Performance Centre, 58 Kingsholm Road. Tel. 20784

Salisbury, Wilts: Janspeed Engineering Ltd., Southampton Road. Tel. 6955

Swindon, Wilts: Martin Whale Engineering, Kiln Lane, Cheney Manor. Tel. 37181

Upwey, Dorset: Wey Valley Service Station, 680 Dorchester Road. Tel. 2683

Warminster, Wilts: Rally & Tuning, Meadow End, Kilmington. Tel. Maiden Bradley 391

THE NORTH

Blackburn, Lancs: Dynac Ltd., Kenworth House, Freckleton Street. Tel. 50071

Bury, Gtr. Manchester: Rally Equipe, Bolton Street, Bury. 061-761 1178

Hull, Humberside: Jordan & Co., (Hull) Ltd., Witham. Tel. Hull 24131

Kirkbymoorside, Yorks: C.C. Racing Developments, West End. Tel. 31867

North Shields, Tyne and Wear: Pringles, 76-78 Church Way. Tel. 72365

Norton, Cleveland: Dixon & Roy, Billingham Road, Norton. Tel. Stockton-on-Tees 551541

Sheffield, Yorks: Heeley Bridge Garage, Broadfield Road. Tel. 52404

Southport, Merseyside: Central Tyre Stores, Wright Street. Tel. 31777

Stockport, Gtr. Manchester: Robell Cars, 257 London Road, Hazel Grove. 061-483 2283

Warrington, Cheshire: Howley Racing, Winwick Road. Tel. 36959

York: Motorist Mecca, 148 Michelgate. Tel. 24017

WALES

Abergele, Clwyd: Slaters of Abergele Limited. Tel. 822021

Llanelli: Lakefield Auto Electrical Services Ltd., 73a Lakefield Road. Tel. 22736

Mold, Clwyd: Lewis & Hall Engineering Services, Brannons Yard, Pontnewryl. Tel. 56784

Newport, Gwent: Supertune, 57a Lower Dock Street. Tel. 58309

Swansea, W. Glam: Zenith Motor Factors, 2 King Edward Road. Tel. Swansea 462124

SCOTLAND

Edinburgh: Motorspeed Distributors Ltd., 10 Brandon Terrace. 031-556 3507

Glasgow: T. and S. Liddell Ltd., Fairview Garage, Main Street, Milngavie. 041-956 2255

Stirling: D.R.E. Racewear and Accessories Ltd., 70 Port Street. Tel. 62031

NORTHERN IRELAND

Belfast: Motor & Sport Limited, 15 Donegall Pass. Tel. 33357



GREAT ESCAPES

Artic ulation

IF I WAS conserving precious energy, it certainly wasn't mine. Plodding across the hardpacked snow of Finnish Lapland on a cross-country skiing trek had left me as flat as an old inner tube.

That's one of the problems of finding a suitable alternative to a petrol-powered holiday: the substitutes call either for more strength than most of us sedentary types possess, or for some special skill.

Sailing suggests itself as the perfect answer to the oil crisis—but unless you can tell your tacks from your gybes, you could end up as I have

done—clinging half-drowned to an upturned dinghy in 100 fathoms.

And, talking of tack, there is that other minimal-energy resource—riding: your average horse does around 40 miles to a pound of oats and a few pints of water. But amateur Harvey Smiths beware—riding can leave its mark on more than your bottom. I still bear the scars of a mare that preferred my fingers to the sugar that I was offering.

Walking is the simplest answer unless, like me, you'd feel as stupid in boots, thick socks, anorak and rucksack as a well-padded American football player in a naturist camp.

In winter, the choice gets even more limited—take up downhill skiing and you could end up lying around with your leg in plaster. Which is why, I suppose, I turned to that safer alternative known to aficionados as *langlauf*, and to us beginners as cross-country skiing. As an extra precaution I decided on Finland to test it out. Experts assured me that a flatter snow-covered country would be hard to find.

Cross-country there comes in as many permutations as the football pools: trekking to a different centre each day; following a choice of marked trails from the same base; night skiing by torchlight and treks through pine forests or across open wastes of snow.

Instruction in the art is very simple.

You're shown how to put on the skis; how to walk on them without tripping yourself or the person in front, and how to drink a stiff tot of that local firewater, *aquavit*, without collapsing into a snowdrift. At zero-minus temperatures, it's an essential skill. It also gives you a false sense of euphoria—so much so that I felt I was in seven-league boots... and skied a league too far. It took another stiff tot and 12 hours' sleep to revive me.

After a few days sticking to the shorter trails, you acquire an easy rhythm that saves energy and leaves you with enough strength to enjoy that other Finnish footslog—dancing.

Anyone who thinks that Arctic Circle nightlife consists of sitting in an igloo, waiting for the sun to rise next spring, should visit Rovaniemi. This modern town, with its neat, bright tourist hotels, jumps like a Mexican bean as, on winter nights, the Finns fling themselves around the several dance floors with 'yolly yumping' joy.

After the first night, I rarely got to bed before 3am. It was the same when I moved south to Jyväskylä, a leading ski resort in central Finland. It was there I discovered that man's best friend in an energy crisis can be his reindeer.

There's nothing more cozy than riding in a reindeer-drawn sleigh, well-covered by warm rugs. There's nothing cheaper than the wild-moss

fuel, and no driving test more peculiar than the one you can take if you seriously consider switching from your Range Rover or Matra Rancho to a reindeer.

At Pohjola, they actually run a reindeer-driving school for tourists. But it's not the driving that proves tricky, as I found out... it's getting the beast between the shafts. As Mrs Beaton might have written, 'First catch your reindeer'.

A vital part of the test is lassoing your reindeer; I all but lassoed the instructor instead. But I now carry alongside my UK driving licence my 'Reindeer Driving Licence No 2024', which entitles me to 'drive a reindeer sledge in the wilderness and to be present among the untamed reindeers without escort'.

The licence's last paragraph however, shows that you can never be too careful where energy conservation is concerned: 'Remember, acceleration and high speed increase the consumption of "fuel"...'.

BILL GLENTON

Twickenham Travel, 22 Church Street, Twickenham, Middx, offers a week's cross-country skiing in different parts of Finland from around £220, half-board at a good hotel. Finlandia Travel, 42 Whitcomb Street, London, also has a selection of similar arrangements, including scheduled flights and stays of up to 10 days' skiing.

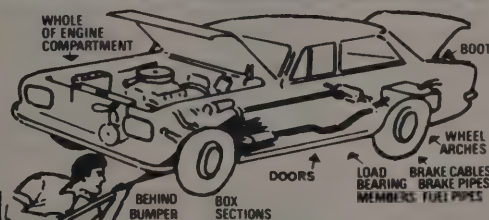
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WAXOYL DOES AS IT SAYS. Kills rust. Users report: SWISS GOVT. LAB TESTS: 'Rust stopping qualities very good'. CITROEN CAR CLUB: 'Fantastic stuff'. BRITISH STEEL CRP'n: 'Most satisfactory'. SWISS AUTO RACING A.G.: 'Clean, easy application. No after-cleaning'. WESTERLY MARINE, PORTSMOUTH: 'Waxoyl protection excellent on marine diesel oil tanks'. (Tank bases otherwise impossible to rustproof, standing on supports). MOTOR MAGAZINE: 'Remains active indefinitely'. CHRYSLER CENTRE, BASEL: 'Application so clean. Entirely satisfied'. ROVER SPORTS REG. MEMBER: '197,000 miles. No sign of Waxoyl penetration'. LEICESTER: 'On '72 Beetle,

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Riding rough-shod

IF ALL motorcycles appear to be the same to you, you must be a car driver. The differences may be more subtle than they are between a family saloon and a luxury limo, a sensible estate and a West-Ken safari wagon, but they do exist, all the same.

There are café-racers, luxury tourers, utility jobs, trail bikes, and, coming to your local High Street shortly, the new American boulevard cruiser, with its fat tyres, sculpted seats and high handlebars.

Right now, the darling of younger two-wheeler fans is the street enduro bike... trail bike, to you. Still puzzled? Well, it's another American import, the ideal machine for following meandering cow trails through the Wild West. Inevitably, it's now the bike to be seen on, having evolved from a mild-mannered, hill-billy plodder to a sharp city-slicker that can also compete in the bike world's equivalent of tough, long-distance, car-rallying-cum-autocross—the enduro event.

An enduro machine has to combine the agility of a trials bike with the power of a moto-crosser and the long-distance comfort of a touring road machine—all this and comply with the normal legal requirements for road-going motorcycles. It seems a tall order, but ruthless development has produced one of motorcycling's most-versatile machines. And what better than such a chunky lump of functional machismo, with competition-proved glamour, and practicality, to grab the bike-buying public's imagination?

Enduros are exactly the sort of machine that a son, or daughter, would want for their first bike, so read on...

BSA 125/6 Tracker Price £623

WHETHER OR NOT you like motorcycles, seeing the name BSA at the head of a new-bike report can only be good news.

Japanese, Italian, Spanish, French, West and East German, Austrian, Dutch, Belgian, Portuguese... and just about every other nation's bikes, have managed to earn a lot of money.

NVT, however, lacked the cachet needed for sales, so the company has revived its proudest brand name—BSA.

We borrowed a 123cc 'Beezer' Tracker (there's a 175cc version, too) and played enduro-riding for an afternoon. We rediscovered a long-forgotten streak of care-free, teenage fun, and came away thankful that an acorn that fell from the once-mighty branch of Britain's bike industry has grown to do so well.

Cynics could point out that all

the bike's major parts are imported. The engine comes from Yamaha of Japan, and the frame, suspension and wheels from Italy, but how else can a new company start from scratch? While the Tracker's engine and transmission is similar to Yamaha's DT125 Trail, the BSA omits its electric starter in favour of a kickstart unit to keep things simple—and the price down. Fascinatingly, the outer engine covers are now made from plastic because they have proved to be tougher than the old cast-aluminium ones.

Starting the reed-valve-aspirated two-stroke is conventional, and it's simple for the dedicated off-roader (or clumsy novice who's likely to panic-stall in heavy traffic) to re-start even with the bike in gear—as long as the clutch lever is pulled in! If only all kickstart bikes could do the same...

A six-speed gearbox is undoubtedly a big plus in the minds of bike-mad youngsters and salesmen alike, but for sensible road-ward, its demands for constant cog-swopping allow the rider no relaxation. Off-road, though, the seemingly endless variety of ratios are a sure-fire warranty against deep-mud or steep-incline stalls. Yet this is where the Beezer fails.

Whereas Yamaha's snazzy little road-runner has enough enduro pretensions to make it fun off the road, too, the Beezer is too much of an off-road machine for general use. It goes almost without saying that, at its price, it

could never hope to succeed in any form of sporting competition, either. Can you imagine trying to mend a puncture without a centre stand on which to balance the one-wheeled machine? Impossible, unless you rest the bike on its side and risk draining petrol, oil and battery acid. Yet the Tracker has no centre stand...

Its mudguards might guard against mud, but they certainly don't against water. There's also a hole in the top of the tough, rubber headlamp where the wiring harness enters—and that's where rain goes, too, right inside the reflector. Worst of all, though, is the competition-sized, 21in front wheel with its square-studded Pirelli trials tyre. Its instability during fast cornering, as it teeters on the edge of unbuttressed studs, is unnerving—and, in the hands of a novice, unsafe. In wet weather it also suffers the lack of tarmac adhesion common to all of its kind, being designed for nothing more than traction in soft mud. As no road tyres are easily available over 19in diameter, the problem cannot be solved by a quick tyre change.

In all other respects, the Tracker is grand: a fine set of brakes, crash-protected indicators; a competition-style seat just big enough for two teenage bottoms; a very useful luggage carrier, complete with pillion grab-rail; and some very functional handlebar switchgear. As far as construction goes, everything appears to be simple, well-made, and robust,

and the finish is equal to any imported machine's.

On a dry road, the bike is a winner—proved by the manner in which it whizzed our 12½st tester and a weekend's luggage from Hampshire to mid-Wales at legal speeds all the way. Riding hard like this returns 70mpg exactly—a problem on long trips as the tank holds only 1gal of 2-star petrol. Its best cruising speed is a quiet, and economical 50–55mph.

Apart from a seat that's obviously intended for young sit-upons, and the unnerving tyre behaviour during fast cornering, comfort and roadholding are magnificent. Credit here to its good riding position and superb suspension. The rear wheel is unusually sprung, being anchored inside a fully triangulated, pivoting fork. One point clamps the wheel in place, another provides the pivot point, and the top one is attached to the rear end of the horizontally mounted suspension unit that lies under the fuel tank. This is why the tank's capacity is so restricted.

Anyone buying the Tracker would have a British bike to be proud of. It might not be wholly practical, but it is terrific fun, looks the part, is well made, and has the backing of a nationwide dealer network. DRIVE's testers felt that, if their sons or daughters wanted a first motorcycle, then this could be a happy choice.

But nagging doubts about the front tyre's wet-weather grip wouldn't disappear overnight.

Yamaha DT100 Trail Price £540

YAMAHA TAKES SECOND place only to Honda in America's motorcycle market—a position won purely on the strength of its off-road machines. Whether you want to trials-ride, race knee-to-elbow in moto-cross, or fume across deserts from one smoking pyre of tyres to another, there's a Yamaha to fit your bill.

One of the models that Yamaha uses to woo the would-be off-road bike ace is the DT100 Trail. You could be forgiven for thinking it's identical to the BSA Tracker, especially as the engine is similar but for the loss of 26cc and different outer-cover castings. In practice, the Yamaha differs in almost every respect. All it has in common with the BSA is the strange lack of a stand—and, as it is clearly aimed at the aspiring trailers' market, this is an unfortunate omission.

Despite the fact that the Trail weighs more than the Tracker, its compact dimensions and low seat, plus very light handling characteristics, give it the manageability of a bicycle. All controls conform to proper

HOW THEY MEASURE UP	BSA 125/6 TRACKER	YAMAHA DT100 TRAIL
Engine	Air-cooled, reed-valve 2-stroke single 123cc	Air-cooled, reed-valve 2-stroke single .97cc
Capacity	13bhp at 7500rpm	10bhp at 7500rpm
Transmission	6-speed, exposed chain	5-speed, exposed chain
Kerbweight	217lb	225lb
seat height	33in	30in
max width	35in (handlebars)	31in (handlebars)
max length	78½in	75½in
Fuel tank	1gal/79 miles plus 2pt reserve	1½gal/90 miles plus ½gal reserve
Mpg—overall	82mpg	81mpg
quiet use	90mpg	90mpg
suburban use	84mpg	84½mpg
brisk use	79½mpg	74½mpg*
hard use	71mpg	74½mpg*
Performance —max (upright)	64mph	56mph
0–50mph	17sec	18.9sec
30–50mph (top)	13.2sec	14.7sec
Warranty	6 months/4000 miles parts and labour	6 months/10,000 miles parts and labour

*The modest power of the DT100 dictated that any speed more than 45mph was brisk and hard

motorcycle layout, but it lacks the punch of a 125cc machine, such as the BSA. It's amazing what effect a 20% drop in engine size can have. Even ridden flat-out, the rider has little chance of exceeding 55mph, worthwhile acceleration fades out at 50mph, and only its initial spurt to 20mph can keep it ahead of the average family car from standstill. But, for all that, there is quite enough performance to satisfy a novice rider, and to keep him or her safely up with the traffic flow.

As with most Japanese machines, the Yamaha's finish exceeds its constructional quality. It is a pretty little machine, with some apparently sensible steel mudguards instead of plastic ones like the BSA's. The trouble is that,

while the BSA's guards are unbreakable (in normal usage), the Yamaha's are fussily fastened to the front by an array of stays, rubber mounts and ticky-tacky spot welds. And the forks, frame and rear suspension are undeniably 'little bike' quality—adequate rather than robust.

When pushed hard through corners, the DT100 can be made to yaw on its inadequately damped suspension. Though it is unsettling, this is by no means unsafe, and it does provide an excellent warning of its fast-approaching cornering limit.

Considering that its engine is only twice the size of a moped's, the DT100's performance is astonishing. The best of it is, Yamaha has favoured useful, low-

engine-speed torque by sacrificing only a few mph at the top end of the power scale.

It goes without saying that engine revs have to be kept singing in such a little engine, but it's not a chore. There is no narrow power range to be maintained at all costs while hill climbing, for example, and pulling away from traffic lights with a pillion passenger requires no screaming build-up of revs on a wildly slipping clutch. Instead, acceleration through the gears needs only modest revs, and cruising at 30mph through town in top gear is a wholly practical, and very pleasant, way of getting around.

While on the subject of pillion riding, it should be pointed out that this can only be accomplished

by a slim young couple whose primary objective in life is to sit squashed close together.

Probably the best bonus of the DT100 is its sensible 19in front wheel. Off-road buffs should calm down at this juncture and accept the fact that no more than 10% of trail bikes and street enduro machines are ever used in the rough; the rest spend their entire lives wearing-out their knobbly tyres on tarmac. For this very reason, they might just as well be equipped with a set of good, safe road tyres, and these the little Yamaha will accept perfectly, front and rear.

Night-time riding is catered for by a small headlamp powered directly from the little crankshaft-mounted generator. It's enough for 50mph in safety, but no more—and much the same criticism applies to the BSA, too. In both cases, the battery is a concession to horn, turn signals and parking lights only.

Braking on the DT100 is by a couple of 5½in drums. Solo, the front brake can cope with anything, but, when the pillion's occupied, one hard stop, or continual use, can cause it to fade.

Probably the most infuriating aspect of the machine, at least in the experience of the unfortunate tester concerned, is the inadequate chain guard. It looks as though its insufficient length might be dangerous, though it probably is not, because the rear suspension unit helps guard the pillion rider's ankle. But the short guard does allow a spray of dirty oil to fling up, which ruined our unwary tester's anorak and shirt.

Fuel costs vary only slightly between the two machines, but there is always the cost of insurance, and in this respect the smaller Yamaha beats the BSA. We obtained the following fully-comprehensive quotes for a hypothetical 17-year-old. High-risk big city: Yamaha, £195; BSA, £246. Rural area: Yamaha, £165, BSA, £195. That's a saving of 61% and 66½% respectively—or, if you like, £3 and £2.50 for every week of a year's insurance. That's approximately half of what an enduro buyer would pay in weekly hire-purchase payments over two years. So, as we suggested when comparing a 200cc machine with a 250cc (last issue), do you *really* need that little bit more power?

Yamaha probably has more experience than any other maker in building motorcycles that are attractive for youngsters to ride, offer all the 'goodies' of their big-brothers, and still provide the sensible attributes of a proper roadster.

Pity about that chain guard's dirty trick, and the lack of a centre stand...

DAVE MINTON



Resistance movement



HOME MECHANIC

Take any suburban Sunday morning, see the army of DIY mechanics march out to start work. Peer into the gloom of a fading Sunday evening, find many still struggling to start . . . and hear some highly inventive names for their problems. But even the least-legitimate nut can be moved—with skill

EVERY CAR has odd-shaped or odd-sized adjusters or plugs—and often corroded bolts, seized joints and steadfast rivets—to be dealt with in the course of car-care work. Removing these stubborn brutes can take as long as the job itself, unless you use a few simple tricks or some of the special tools designed to take on the rough work.

Adjusters and plugs

On many cars, the means of brake adjustment is a small splined or square-headed screw in a less than handy position. Inexpensive spanners, specially designed to reach the adjuster and cope with the unusual shape of the head, are usually available at car-accessory shops.

Drain plugs in radiators, sumps and the transmission system vary enormously. A universal tool, with

internal, square drives, can be bought to deal with them all.

Rusted bolts

When rust attacks a bolt's thread, the corroded metal expands and locks the thread in place. Penetrating oils and fluids, liberally applied, will help to free it.

The fluid should be left to soak in for a few hours, but do not exert too much force on the bolt too soon—there are a few more tricks if fluids do not work.

Heating the seized bolt is the next possibility, but be careful. Clean off any inflammable sealant around the bolt, and never apply heat near the fuel tank, carburettor or fuel lines. Do not play a flame near the flexible brake pipes.

Heat the bolt with a butane-gas blowlamp with a fine-flame attachment, and, for maximum effect, use the spanner on it while it is

hot. Smart taps on the spanner with a hammer may make it possible to gain the first break in the corrosion's hold.

If these mild measures do not work, there are two further possibilities. When the area to which the bolt is fixed is solid, a sharp cold chisel and a hammer can be used to shear-off the bolt head or split the nut. But don't use this method if you are dealing with a bolt that's tapped into a casting, or with a nut that's screwed on to a stud, unless it is unavoidable.

A nut on a bolt or stud is much better tackled with a nut-splitter—available from tool-hire shops. It consists of a collar into which a blade is tightened by a fine-thread bolt. It splits the nut, leaving the bolt's or stud's thread undamaged.

If you are left with a section of snapped-off bolt that's rusted into a casting, leave it to soak in penetrating oil for as long as possible. Mark the centre of the bolt with a centre punch and hammer and, with a drill half the diameter of the bolt, drill as accurately as possible down the centre of the seized part. You can then use a stud extractor (sometimes called an 'easy-out'), which is a tapered, reverse-thread bolt. Screw it into the new hole and turn it with a spanner. As it begins to bite, it should extract the old stud or bolt. Be careful, however, because a broken extractor is often impossible to remove.

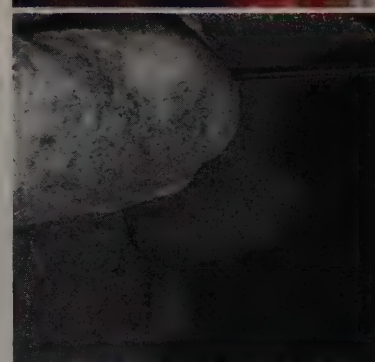
Failing this, get the broken section drilled-out by a garage.

Screws and rivets

Seized screws can usually be treated like bolts. Soaking in penetrating oil is very often more successful with screws because the parts that they secure are held more lightly, so the oil can get to work more quickly.

When using a screwdriver, a couple of smart taps on the handle will sometimes help to free a screw, or you can turn it in the tightening (clockwise) direction slightly before backing it off. If the screw slot becomes burred, it may be possible to cut it deeper with a hacksaw.

An impact-driver is a special tool to deal with stubborn screws. Usually supplied with interchangeable blades to suit different screws, the impact driver is



Rivets can be beheaded by a cold chisel and hammer, but the best method (top) is to drill them out. Taper joints (above) can be parted with a special clamp.

designed to be hit with a hammer, which imparts a turning motion to the screw.

Rivets are best drilled-out, but they can be tackled, like rusted screws, with a cold chisel and a hammer.

Taper joints

On many cars, parts of the steering and suspension are joined by taper joints—a conical section that's tightened into a tapered cup. It is necessary first to undo the securing nut and then separate the two interlocked parts.

A simple but effective method is to strike each side of the joint simultaneously with two very heavy hammers. This is called impact hammering. If you can get a helper to exert some downward pressure on one of the joint components at the same time, so much the better.

If this method fails, there are special joint-splitting tools on the market for the DIY man. The simplest, and cheapest, are joint-splitting wedges. These are mating wedges, cut out at the centre so that they can be placed on each side of the joint. As they slide together, the wedging effect increases until the joint parts.

Other joint-splitters can be clamped round the joint so that a threaded bolt can be tightened on to the inner component, so forcing it out of the tapered cup.



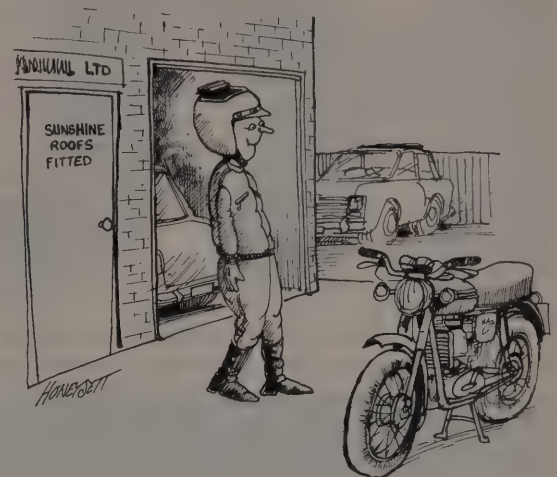
A nut-splitter (top left) can be hired to open the nut, leaving the bolt undamaged. A blowlamp (top right) may also free seized nuts. Above: stud extractors.

Driven daft

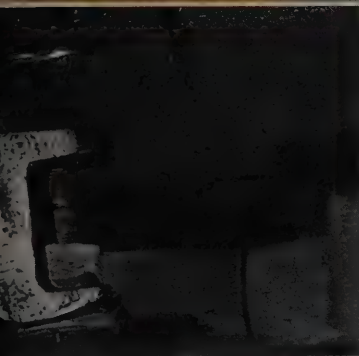
Cheer up! It might never happen to you. And if it does . . . well, you can laugh now, pay later



'I've got a date tonight, Dad. Can I have the skeleton car keys?'



'Gerald saved for years for his cassette-tape player.'



Ball joints on steering mechanisms can be split apart by using similar screw-down removers.

Of course, it should go without saying that all this hammering, wrenching and drilling can only be done *after* the car you're working under has been made safe and secure with wheelchocks or axle stands. Otherwise, the worst seized joints could be yours . . .

Based on the new Marks and Spencer/AA Publications book *Car Care*—224 fully illustrated colour pages explaining how a car works, and what to do when it doesn't. Chapters include the theory of car systems, and 100 of the most common servicing jobs. Price £3.50.



An impact screwdriver in use

RUST

DRIVE investigates the rust-protection business—the advertising offers that are hard to refuse, the salt that's rubbed into your car's wounds, and what you can do to delay the inevitable . . .



IT WAS JUST two years ago that Renault announced its alluring, mouthwatering bodywork protection plan. Code-named ACP5, it guaranteed all models against corrosion in key areas for five years. Fourteen months later, not to be outdone, the Volkswagen/Audi giant entered the fray with a six-year warranty.

It seems only a matter of time before other manufacturers weigh in with even more spectacular rustproofing claims. Suddenly, the prospect of the 10-year corrosion-free car looms large.

There can be no doubt that the car industry has come a long way since the 1950s when underbody protection was no more than a layer of bitumen on the underside. But any hopes that manufacturers are edging closer to a wonder anti-rust breakthrough can be totally discounted. The fact is that not even the headline-stealing Renault and VW/Audi schemes are quite as attractive or revolutionary when you study the small print.

Marcus Jacobson is the AA's chief engineer, and an acknowledged expert on car corrosion. He warns: 'Although several technical improvements have been introduced by a number of manufacturers, many of their claims are simply a public relations exercise—a calculated risk of how much an individual manufacturer may have to pay out in settlements against a potential loss of sales should it not keep

abreast with, or improve on, its competitors' long-term anti-rust guarantees. Competition on rust-resistance is good—but not if the foundation is a tightly worded warranty.'

Far more effective, urges Jacobson, would be the adoption by European governments of the kind of code of practice introduced in Canada in 1978. This voluntary charter, which he would like to see forming the basis of legislation on our side of the Atlantic, requires among other things that, from next year, every new vehicle shall remain free from:

- corrosion affecting any readily visible surface area of any component of the body materials or manufacture for 18 months or 37,500 miles, whichever occurs first
- corrosion under normal operating conditions of any metal component, from one surface through to another, for five years or 125,000 miles
- corrosion resulting in the weakening of any metal component for six years or 150,000 miles.

At first glance, the code would appear to be not very different from the Renault and VW/Audi warranty schemes. Renault offers a five-year anti-rust warranty on the floor panel, lower body members, front- and rear-wing undersides and lower areas of doors, bonnet and tailgate or boot lid. VW/Audi guarantees against corrosion appearing on the bodywork for 12 months

and free rectification of any through-rusting in the first six years.

Like the code, both warranties call for mandatory interim inspections by authorised dealers. Renault insists on them at 17-19 months and 41-43 months; VW/Audi at 23-25 months and 48-49 months. Also in line with the Canadian charter, external rust caused by scratches, chips, stone bombardment and the like is not covered by the warranties, and, for the guarantees to remain valid, these blemishes have to be put right to the dealer's satisfaction at the owner's expense.

There are, however, telling differences. For instance, the code requires that the checks are carried out *free* at *yearly* intervals—a clause endorsed by Jacobson, who maintains that more owners will be encouraged to observe the warranty conditions if there is no charge, and that inspections at more-frequent intervals will help ensure that damage and defects are discovered earlier: 'By the time a Renault/VW/Audi customer starts waving his guarantee, it will often be too late.'

Even more important, Jacobson goes on, the Canadian charter attempts to define the various forms of corrosion and *identify who picks up the tab*, thus lessening arguments as to whether or not defects are covered by warranty.

One thing is for sure: despite Renault's

five-year protection plan, it certainly hasn't found an assembly-line process guaranteed to keep rust at bay for that length of time. At the interim inspections, each costing the Renault owner more than £40, the vital interior sections are re-treated if necessary. VW/Audi has yet to finalise the charge and decide what the inspections will consist of.

In both cases, however, everything depends on how closely the individual inspector looks and how thoroughly the rust-proofing operator does his job. And, as Jacobson says, 'if an interior section receives, say, only 85% coverage, it can be worse than having none at all. For it allows corrosion to be concentrated in critical hidden areas and gnaw away at the metal undetected. These zones are frequently not only the most difficult to cleanse and

will be loath to spend money on re-treatments to interiors that they can't see. Somehow, the public has to be educated that rust can also start from within.

'At the same time, owners still haven't woken up to the fact that one of the best anti-rust systems is regular washing and drying. The onus is firmly on the car owner, not the manufacturer, to maintain the bodywork of his car.'

Despite advances in rustproofing materials and treatments, the corrosion risk has, in fact, probably risen in recent years. Apart from an increase in airborne industrial fall out, crop sprays and the spreading of de-icing salts and grit on the roads, some changes in car design, too, have actually aggravated the problem. Much greater glass areas, for example, mean more condensation: people don't

face the fact that corrosion is the inevitable fate of all metal components. 'Even aluminium and stainless steel, in time, are degraded to the point where they are no longer capable of load bearing. Nonetheless, the car industry stands indicted that it has done less than its best to prevent early onset of corrosion, or at least retard it drastically. For corrosion starts on the drawing board.'

The basic problem is that, in knocking out car-body shapes on heavy presses, metal is severely strained. Sheet steel, when severely deformed, is liable to rust sooner than when flat and relatively stress-free. To minimise the 'strain rippling', special press oils are used—but these have to be removed before protective metal pre-treatment and paints can attach themselves to the metal surface. This cleansing



Any colour . . . so long as it isn't red. Not so long ago, Ford was saying that new-car buyers just weren't interested in rust protection. In these conservation times, Ford is now at pains to point out, like most mass-car-makers, that its factory systems include stone-chip-resistant pvc on underbodies; lance-injection of wax into closed body sections, and on-line inspection by fibre-optics of the wax coating in box sections. So far, so good—but where now?

protect, but all too often they are the most important structurally.

'Unless car makers genuinely change manufacturing and treatment processes, they may never achieve the level of protection that they claim.'

Renault grudgingly admits that Jacobson may be right. 'With our warranty protection, we are trying to stop body rot—the sort that causes the customer to lose capital value,' says David Jarman, technical head of Renault in the UK.

In its ACP5 booklet, the company declares that, 'thanks to the care which has been lavished on the bodywork of your car during production, your Renault is ready to face the elements. So much so that Renault now gives an exclusive five-year warranty against corrosion'. (See page 16 of this issue's Gordini test.)

But what is corrosion? Jarman admits that it isn't clear. 'I anticipate a huge problem,' he tells DRIVE candidly. 'I hope that we aren't going to get a lot of claims, but we have to wait until it happens and sort it out later . . .'

VW/Audi has tried to clarify its warranty by suggesting that the car should not rust through. 'But no car should rust through from the inside out in five or six years,' says Jacobson.

'Anyway,' he goes on, 'in my view, there's a danger that, as long as a car's external appearance looks all right, many owners

realise that cars can sweat and promote internal rusting.

There's no quick answer to corrosion, but a lot more could be done to eliminate rust at source. Here, VW/Audi wins Jacobson's qualified approval, for spending a lot of time in designing-out rust traps.

Practically all manufacturers have, step by step, redesigned vital underbody and underwing areas to reduce the risk of corrosion, and several methods of protection have now been discredited and largely abandoned, including foam-filled hollow sections: these are effective for a relatively short time, but then make matters worse.

It's interior sections that are the hardest to deal with on car makers' assembly lines. VW/Audi spokesman Tony Hill admits that his company is treating these when the car is complete and off the assembly line, in the same way that professional rust-treatment firms such as Ziebart do—'a process that's difficult to monitor for quality: it's totally dependent on the conscientiousness of the operator.'

Fiat learned this to its cost a few years back, when it tried to answer criticisms by launching its own rustproofing process, borrowing the methods of after-market rustproofers Protectol. It was less than successful—'a palliative to a bad problem,' says Protectol boss Ron Booth. 'Trying to satisfy a marketing demand.'

Jacobson's view is that we just have to

process—particularly the flushing out of hollow, semi-closed and closed sections—is vital. For the quality of the subsequent phosphating and primer application determines whether a body will rust quickly.

Care is the important element when applying underbody compounds to reduce the effects of stones, grit and salt bombardment: lack of it will confound the best materials and design, resulting in early onset of rust.

According to Jacobson, a regular visitor to car factories at home and abroad, one in every four plants in Europe and the UK is indifferently-run and dirty. 'And the last thing you want is dust on the body shell before the paint has set hard.'

How does he see the future? 'With ever-spilling energy and material costs, it will actually become more difficult to improve standards. Nevertheless, new technology and processes in the next decade could increase durability by two to four years . . . if the unions will allow them. For, make no mistake, it will mean complete automation of the cleansing, phosphating and paint shops, and the disappearance of many manual operations at the body welding stages.'

In the meantime, he believes that only a strictly enforced charter on the lines of the Canadian code of practice, to discourage corner-cutting and extravagant claims, will give customers a fairer deal.

Rust—the bodysnatcher

APART FROM accident damage, corrosion is the biggest cause of cars being scrapped before their time. It is a cancer that, once established, is almost impossible to cure. It will spread, largely unseen, until it has an unshakeable hold.

Rust can knock hundreds of pounds off the value of a car, and may ultimately turn it into a death trap. A few years ago, the government's Transport and Road Research Laboratory estimated the annual cost of corrosion in cars at £260 million. For today's figure, multiply that by at least two, and possibly three.

Rust is often thought to result simply from the action of water on metal. But what happens is an electro-chemical process like that in a battery.

A battery is basically two metal plates immersed in an electrolyte—a solution that conducts electricity. Electricity is stored in the plates—all metals have an electrical charge—and, as a current is set up from one to the other through the electrolyte, a charge is given off. In the case of the battery, the plates are lead and the electrolyte is sulphuric acid. If the plates were steel and the electrolyte, say, salt water, iron in the steel would combine

with oxygen from the water to produce iron oxide—rust.

Now think of a car body as a huge battery: here, the 'battery plates' are steel and, say, chrome—two metals with very different electrical properties—and the electrolyte is impure, often salt, water. The electricity runs through the water, between the steel and the chrome, giving off oxygen which combines with the steel's iron . . . and red spots start appearing through the paintwork.

And there's worse to come: mild steel, from which most car bodies are made, can corrode without being in contact with another metal. This is because it contains chemical molecules with different electrical properties, so the process can take place within one piece of steel.

Where cars are concerned, the electrolyte is rarely water by itself but water containing something more vicious, such as the tons of salt spread on the roads each winter to disperse ice and snow—see page 30; or, for that matter, the salt in sea spray. Industrial fallout provides another harmful 'cocktail'.

Your car's not safe from contaminants even in the countryside: fertilizers and

crop sprays used by farmers find their way on to roads and into the atmosphere.

Heat these mixtures gently, as they say in schoolbooks, and the action is accelerated—so corrosion is even more likely to happen in a sultry August as a wet February.

And the car itself, by its very nature, can only help the process, offering all sorts of nooks and crevices where mud and moisture can accumulate and the rust bug can breed in what is virtually a propagator. Among the worst rust-traps are the wheel-arches and the underbody, particularly the sub-frame and suspension mountings.

In recent years, some car designers have been giving a lot more thought to these areas. But, as AA chief engineer Marcus Jacobson makes clear on page 59, there is still some way to go . . .

Salt in the wound

SALT, it has been estimated, causes 50% of the corrosion in cars. And more of it is going down on Britain's roads to counteract the winter menace of snow and ice. Between 1966 and 1972, annual deposits of salt doubled to more than 1½ million tons. And a good thing, too—see page 32. Last winter, the total was a staggering 2½ million tons, and even that wasn't enough: an unsalted, icy road is more of a danger to car bodywork—and human life—than any amount of superficial rust.

There is no doubt, however, of the corre-

IF YOU DO-IT-YOURSELF YOU'VE ONLY YOURSELF TO BLAME



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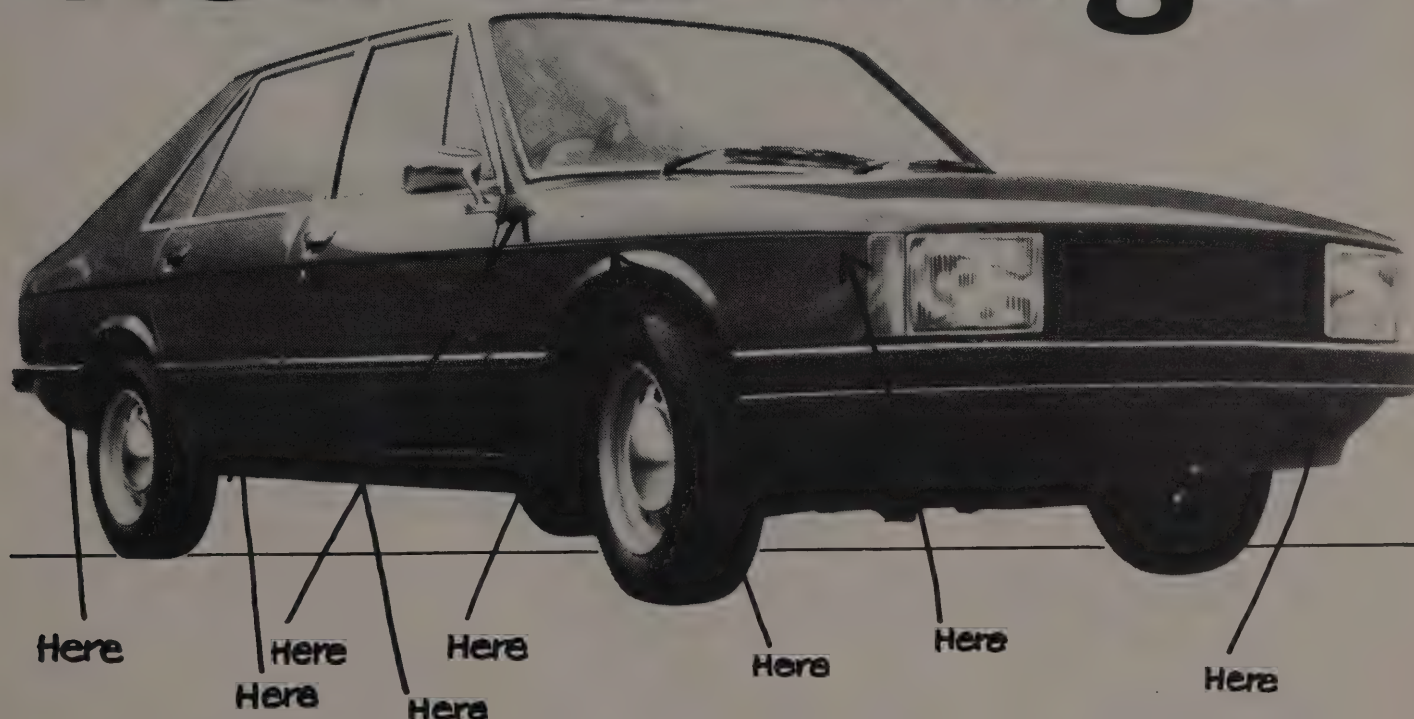
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Like the doors.

The sills.

And the wings.

As long as you ignore it, it will travel further afield to other spots. Some are very dangerous, like the suspension mountings or the brake pipes.

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Of course, there are quite a few rust proofing companies to choose from. But

can they match Bodyshield? All we ask you to do is ask your garage a few simple questions.

Does the treatment smell? (ours doesn't) Does it drip? (ours doesn't) Is it clean? (ours is) Does it protect every hidden area? (ours does).

Then ask if you can inspect the work afterwards with a fibre optic probe, like the ones surgeons use to examine the human body. (We encourage you to do just this.)

Also, ask if the company automatically sends out reminders for you to bring the car in for regular inspections. (We do. With those that don't, your guarantee could be null and void within a year.)

* And whilst on the subject of

guarantees, ask your garage which company issues an unlimited mileage guarantee, transferable any number of times. (We do, because we believe it's the best deal we can give you.)

And finally, if you still can't decide ask yourself, would a company like Castrol put their name to a product that wasn't No. 1?

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lation between salting and corrosion. The Transport and Road Research Laboratory has already put the issue beyond doubt by studying cars from two very different areas of Britain. The experiment centred on Derbyshire, which uses 60,000 tons of salt on its roads a year, and on Pembrokeshire, where salting is negligible. The result? The Derbyshire cars were found to be twice as prone to rust.

Given that salt is such a killer of cars, why has no alternative been tried? The simple answer is that salt is cheap. A few years ago, the chemical urea looked like a possible substitute—apart from the fact that it cost eight times as much.

So couldn't the salt itself be treated? Well, back in the 1960s the solution seemed to be at hand: mix the salt with a corrosion inhibitor—additives that were marketed commercially in W Germany and the United States. Unfortunately, when the combination was put to the test in road conditions, it proved ineffective.

The TRRL began tests to find an inhibitor that really worked, and came up with a mixture of sodium polymetaphosphate (better known as the water softener, Calgon) and an organic rust inhibitor. The early results were encouraging: cars driven through the inhibited salt suffered considerably less corrosion damage than vehicles exposed to 'neat' salt.

The snag, once again, was money. The laboratory calculated that, if the inhibitor were to be used at its effective strength, the cost—ultimately to the taxpayer—would be £25million a year. Wouldn't it be worth spending £25million to save the 'considerable' proportion of the £500 million-plus that rust costs? In the end, it comes down to who first pays the £25 million, and the laboratory regretfully concluded that it is 'unlikely that such an increase in public expenditure on salting could be justified unless almost complete protection from corrosion could be offered'.

Who's who in the protectors

IT IS quite clear from the AA's comprehensive inspections of new cars that, although manufacturers are making efforts to protect cars against rust, the job is often nowhere near as thorough as it should be.

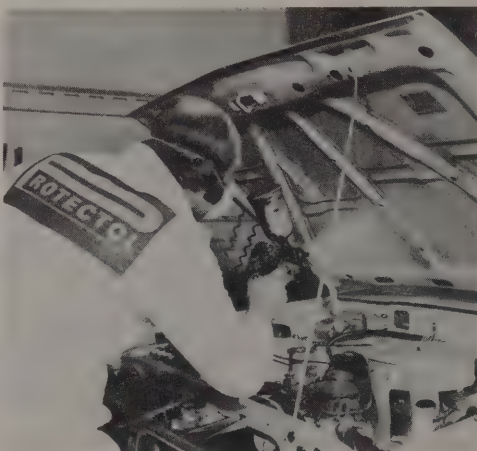
That is why specialist rustproofing companies like Ziebart, Bodyshield, Dinitrol and Cadulac have been around for about 10 years and are still going strong. Their treatments are not cheap, but they can be effective. And, with stricter quality control than many car manufacturers', most of the leading companies are prepared to back their claims with good guarantees.

Ziebart, which had many years' experience of rustproofing in the US before setting up in Britain, quotes £85 for a Mini, £105 for a Ford Cortina and £170 for a Jaguar. If the car is treated before it is three months old, the work is covered by a 10-year guarantee; and, if you sell the car, you can pass on the guarantee to the

new owner. Used cars less than two years old—provided rust hasn't gone too far—can qualify for a five-year warranty.

Proper rustproofing treatment involves drilling small holes into the boxed-in sections of the car and spraying in a sealant that covers the metal and runs into the crevices and seams. Box sections are also drilled and coated, and the underbody fully covered. The sealant, usually a petroleum wax, stays flexible when dry so that it doesn't crack, and should cope with extremes of temperature.

There is little argument that such treatments work—if they are properly applied. Ziebart runs a comprehensive training programme for its dealers to ensure a uniform standard of treatment, and it has a rigorous system of quality control. It was the first rustproofing company to be awarded the AA Seal of Approval, both for its process and the efficiency of its application. The seal has since been awarded to Bodyshield and to Protectol, which recently took over the well-known Endrust operation.



You might consider saving money by rustproofing the car yourself. There are several firms offering DIY kits—sealant plus the basic tools—at a cost, for a medium family car, of around £15 to £20. But be warned: though the material itself will probably do the job, it is only as good as the person applying it. If you are that person, you must ask yourself whether you have the skill and the facilities to do the job properly—hoisting the car to get at the underbody, for example.

The people selling DIY rustproofing kits naturally make it sound very easy. It isn't: it can be a tricky job—and a messy one.

Tarnish reputations

TEN YEARS AGO, it could be argued, most car manufacturers—British, European and Japanese—were doing little to prevent corrosion; in some respects, they were actually encouraging it. Paintwork was poor, underbody sealing inadequate, and scant attention was paid to keeping water out of vulnerable joints.

Worst of all, some car makers introduced foam rubber into areas such as wings to reduce noise and vibration . . . which

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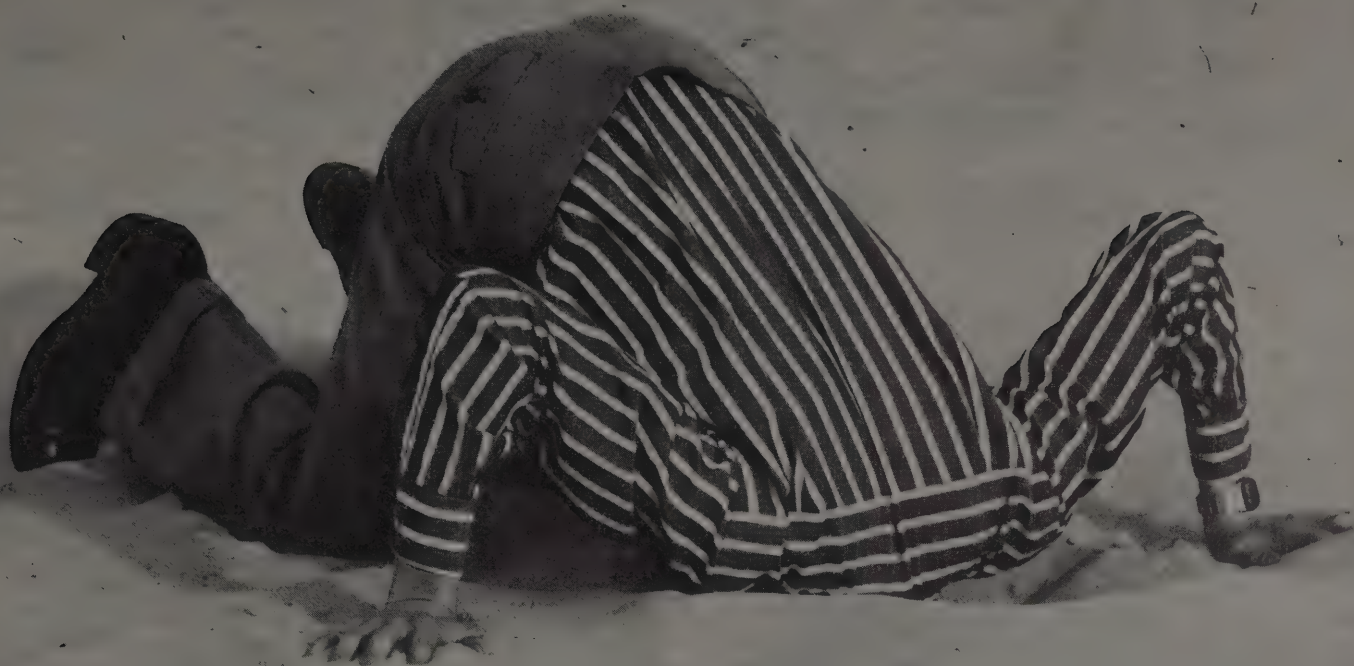
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“When it comes to rust, a lot of you are burying your heads in the sand!”

But ignoring the problem won't make it go away.

On the contrary.

It is an undeniable fact that ALL cars rust, some faster than others, but eventually unless proper protection is carried out at the time of purchase, every new car that is delivered will end up riddled with rust.

The car manufacturers are trying to solve the problem with on-line rustproofing. It is certainly a step in the right direction, but in our opinion, is not the complete answer. It is not practical with an on-line process to spend the amount of time that we feel is necessary to do a thorough rustproofing job, so

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crack, but maintains its position and keeps on protecting.

Quality is of the utmost importance to Ziebart. Not only quality in the tools used to carry out the job, but in the overall process itself. Each car treated, undergoes a stringent quality control check before it receives the famous Ziebart * 10 year or 100,000 mile guarantee. It is this attention to quality that made Ziebart the FIRST rustproofing company to receive the AA Seal of Approval. A fact of which they are very proud, and that's not all, Ziebart have kept-up their excellent high standards and for the 3rd year running, have maintained this coveted Seal of Approval – that's quality for you.

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simply acted as a sponge, soaking-up water and forming a base for rust.

Things have got better. Stung by the adverse publicity that their rust-rotting vehicles began to generate, manufacturers decided that the problem must be seen to be tackled. Now, instead of just dipping car bodies in paint, manufacturers use an electrophoretic process—like electroplating on teaspoons—to make sure of 100% coverage; plastic sealing compounds are applied to metal joints, and wax containing anti-rust additives is injected into box sections; special chip-resistant material is used on sills, wheelarches and floorpans; and, in designing new models, efforts are made to minimise panelwork seams.

Ford has just introduced new rustproofing methods into all its European plants, after studying corrosion on 4500 cars of various makes. Vauxhall has a 10-stage body-protection process, and claims that new designs have eliminated mud- and water-traps; and Fiat has tried to salvage its reputation with a two-year anti-rust guarantee. Some companies offer anti-rust warranties—Volkswagen, BMW and Porsche for six years, Renault for five.

But, while acknowledging that improvements have taken place, AA chief road tester Peter Denayer warns buyers against complacency: 'Anti-rust treatments may sound fine on paper, but they are often undermined by poor workmanship or lack of quality control.'

'It is still unusual to find total wax



Closed doors don't have to be a problem, if you have the right equipment

coverage in box sections or sills,' he says. 'And bad rustproofing is worse than none at all, because it makes untreated areas rust faster.' He also stresses that, by using thinner metal to save weight and fuel, modern cars can be more vulnerable to rust than their heavier-bodied old-fashioned predecessors.

Among the best-protected makes, Denayer picks out: Mercedes-Benz, Volvo, Saab, the Volkswagen/Audi range, and recent Renaults. He considers that Vauxhalls are best among British-made cars, and says that the legendary mechanical reliability of Japanese models is not matched by their ability to withstand rust.

Recent checks on new models by the AA's technical research engineering division endorse his views: of seven Japanese models inspected—the Toyota Starlet, Honda Accord, Honda Prelude, Mazda Montrose, Datsun 120Y, the latest Datsun Cherry and Colt 1400GLX—none had treated door interiors.

But the Japanese aren't alone: five other models—Vauxhall Chevette, Morris Marina 1.7HL, Fiat X1/9, Alfa-Romeo Giulietta 1.6 and VW Derby LS—had no door-interior protection, either.

Indeed, only three models out of 25 met the AA's requirements with flying colours: the Peugeot 305GRD, Volvo 265GLE estate and, door interiors apart, the Colt 1400GLX. In all other cases, there were faults in the protection applied on the assembly lines.

Little wonder that Denayer stresses that anti-rust warranties should be read very carefully. As he points out, they don't all cover the same things, and can involve owners in expense for top-up treatments.

Keep it clean to keep it

THE ONLY sure way to deal with corrosion is to stop it starting. And, in fact, there are many simple precautions that the motorist can take to discourage rust and check its spread. But the main thing is to keep the car clean. And *really* clean, not just a quick hose-down and polish to impress the

neighbours on odd Sunday mornings.

Regular washing, at least once a fortnight, in summer as well as winter, is vital. There is no need to use an expensive car shampoo: water, preferably tepid—and the softer and the more of it the better—will deal with most mud, slush and dirt.

Apply the water gently, rinse thoroughly, and leather-down paintwork to remove excessive moisture. Hoses should be used with care, for powerful jets can scour grit particles into the paintwork and force moisture past window seals.

In addition to general dust, take special care to remove bird droppings: these are very acidic and can eat through paint in a matter of hours. Marks from fruit and leaves can also damage the paintwork, and should be washed off as soon as possible.

When cleaning a car, work from the top downwards, and don't skimp those awkward corners and crevices, such as the slats in the radiator grille: a flexible brush can help here (see page 44). Wash and dry rain channels carefully, and look out for loose or leaking window seals, which should be treated with a sealant.

Check in the car handbook for the position of drain holes and unclog if necessary—vital to keep box sections ventilated.

It is a fallacy that rust occurs only in winter: the high humidity of July and August provides ideal encouragement for corrosion, particularly if the car is already caked in dirt, mud and salt. So at least twice a year, in spring and autumn, the underside of the car should be given a vigorous spray with water to remove deposits.

To do the job properly, drive the car on to ramps to gain the extra height that will allow you to use the full force of the hose to maximum advantage, and apply a bristle brush to the underside. In addition, remove each wheel in turn (after taking the obvious precautions), and get to work on the wheelarches.

It is also a good idea to inspect the floorpan for dampness at least two or three times a year. Remove the mats, carpet and underfelt and, if there is any sign of damp, trace where the moisture is coming from and take action to stop the water leak. Any rust, flaking protective compound or cracking paintwork should be cleaned off with a wire brush, and the exposed area thoroughly prepared before retouching with the appropriate covering.

Repairing rust damage, certainly if it affects the strength of the car's structure, is often best left to experts. Nonetheless, the do-it-yourselfer can successfully deal with chips and scratches, and even holes in the bodywork, given skill, patience and strict adherence to makers' instructions.

Do not think that, because your car is in your garage, it is necessarily better protected from corrosion. The worst thing that you can do is to take a car straight from ice, rain or snow and drive it into a heated garage—especially if you then lock all doors and windows: that creates the perfect hothouse conditions for corrosion to flourish.

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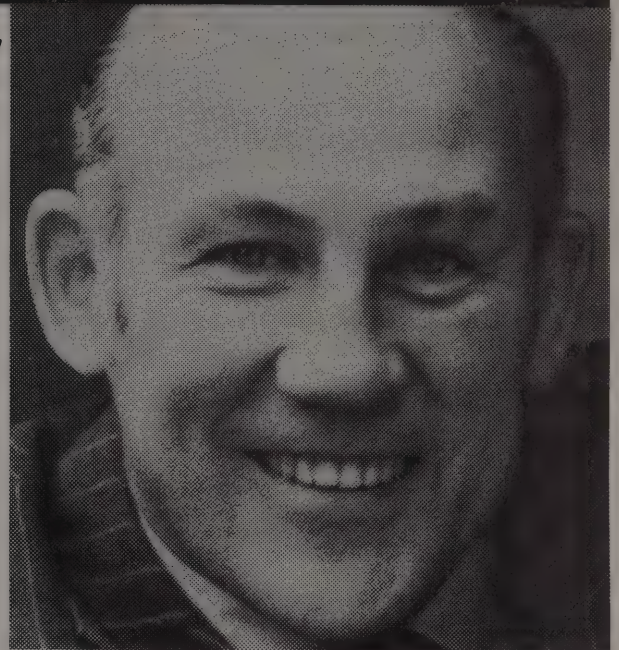
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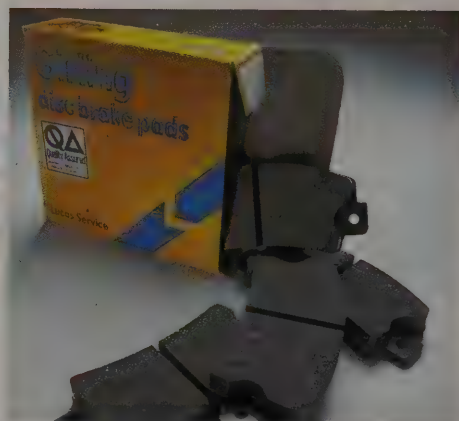


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Page 20



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BACKED BY FORD

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YET MORE editorial changes this issue: significant refinements to our car-test performance tables — they come first in our eagerly-awaited (you tell us) report on Honda's likeable Prelude (pages 15-18) — and a wholesale revamp of the wholly unique and, these days, ever-more-important DRIVE Index of Motoring Costs. Turn to pages 20-22 and see how very much easier the Index now is to read and understand.

This time, too, we give you more background to the business of car testing and car-test reading — pages 13-14; allow a glimpse of the Fords of tomorrow — page 7; let the people speak on petrol's Regulars Only — page 28; meet The Exorcist — pages 30-31; solve your braking problems — pages 34-35; help you get a leg over — page 52; and conspicuously do our darndest to give you a lot to think, argue and write about between now and 24 April, when the next DRIVE goes on sale!

— the Editor

Saving disgrace?

WITH PRESSURE to 'Save It' as insistent as ever, a DRIVE survey into the state-of-tune of brand-new cars, recently serviced by manufacturers' dealers, throws up disturbing evidence that precious fuel may be being wasted by motorists encouraged to think that they're on the side of the angels.

According to one major UK manufacturer, all but 15% of new cars are conscientiously put in for service at franchised dealers at makers' recommended intervals — a clear indication of car-owners' concern for their new vehicles. But when DRIVE picked at random 500 reports on checks on cars less than a year old from the AA's West Bromwich Vehicle Inspection Centre, it was found that 74% had maladjustments that were resulting in gas-guzzling. In addition, in 316 instances, carbon-monoxide (CO) emission was more than the anti-pollution limit set by type-approval regulations.

How much petrol gets squandered because servicing appears not always to be as painstaking as it might be? It depends on how far out are ignition timing, dwell angle, valve clearance and carburettor settings, whether the carburettor is of the variable- or fixed-jet type, and the condition of the air-filter element. But the outcome of a special DRIVE test provides a clue...

In this, a Vauxhall Chevette less than 12 months old was doctored by AA technical staff to have tuning maladjustments typical of the cars in the West Bromwich sample. Its loss of fuel during a series of test drives, which consisted of fast and slow cruising in town and country, was a considerable 7.6%. Or, put another way, a gallon every two to three weeks.

The arch-enemy of petrol economy is the badly adjusted carburettor — it gulps fuel and pollutes the atmosphere if set

too rich. The variable-jet type — fitted now to most popular cars — is especially wasteful if the CO content of the exhaust fumes exceeds 6% during normal tickover: this points to petrol-loss in both town and country driving. An ill-adjusted fixed-jet carburettor is less greedy but can still produce excessive consumption if the car is driven mainly in urban traffic.

The West Bromwich survey showed that 176 variable-jet and 73 fixed-jet carburettors on the 500 vehicles reported-on were allowing more than 6% CO. One in 20 cars, on the other hand, had a carburettor that was set too lean — another cause of excessive petrol consumption, through the need for more use of the choke and low gears. Also, ignition timing in nearly 40% of the sample was out by more than 4° (the point at which mpg begins to suffer). Of these 186 cases, 97 also had maladjusted carburettors, and a further 17 had other fuel-wasting defects.

A further 45 of these new, regularly serviced cars were squandering petrol from having badly-adjusted contact-breaker gaps, and more than half of these had other faults affecting fuel economy...

Multiply-up one wasted gallon per nearly-new car every two to three weeks, and it could be that, here in the UK, cars in their first 12 months of life alone are responsible for wasting up to 20million gallons of precious petrol. An alarming thought, and one that's likely especially to disturb all those new-car owners who run-in carefully and 'go by the book' when it comes to returning their vehicles to franchised dealers for regular maintenance. For they, surely, have a right to expect that their cars are in tip-top tune, making the most of every costly gallon?

While the garage trade ponders our findings — and, next

issue, we'll be happy to publish any of its comments — it's worth noting that the percentage of nearly-new cars with mpg problems found in DRIVE's West Bromwich survey is about the same as for used cars in general... a fact that emerged when, our 'Save It' passions roused, we went on to analyse AA inspection-reports on cars up to 10 years old, many serviced by DIYourselves.

Unholy trinity

THE COST of running a big car in France has suddenly gone through the roof. In this land of taxation by cc's, a 3litre or bigger car used to attract an annual road tax of around £75 (that's why so many French limousines stop at the 2.8 engine size). Now, the government has pushed this up to a painful £450 — and that's in a country where petrol, too, is dearer than in Gt Britain.

Strict rotation

WANKEL ROTARY engines nearly died during the first energy crisis, killed off by their reputation for guzzling petrol. Mazda was one of the few to persevere, and today the rotary is the pride of its engine range. Toyota beavered away, too, and is now ready to announce a twin-rotor Wankel that meets emission controls worldwide and gives a claimed 20% improvement in fuel economy compared to a similar engine.

Looking for turbo

WHILE SOME specialist car companies are limping into the 1980s, Porsche continues to roar ahead. With almost 500 cars a week rolling off the line, the 924, powered by an Audi-based 2litre engine, is almost a mass-produced exoticar.

We're not complaining, either, when it means that Porsche can introduce its 924 Turbo at the bargain-basement price of £13,629. It's a car that can live with rivals such as the Ferrari Dino 308 GT4, the Maserati Merak or our own Jaguar XJS — and just look those up in our price guides.

With a standstill to 60mph time of under 7sec, and a top speed that, in Britain, is totally academic, the 924 Turbo is a real muscle-car — and in that respect it answers a major criticism of the standard 924.

But the story isn't all roses. On a brief, 100-mile drive, one of our testers didn't enjoy the car's firm low-speed ride — Porsche's price for its sure handling — and the Turbo's gearbox takes some knowing.

To handle the claimed 50%



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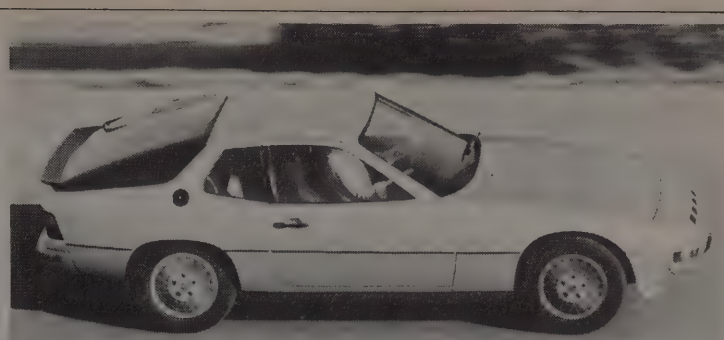
Eagle Star Insurance

increase in torque, Porsche had to use the gearbox from the 911, with its unique shift pattern that's designed to give speed-merchants a quick change between fourth and fifth. The snag is that it's all too easy to shift up from first to fourth, and you have to make a conscious effort to remember that first gear is to the left and *down* — otherwise you rocket off in reverse! Solo Porsche owners will no doubt become accustomed, but what about two-car families? Maybe the only answer is to buy two Turbos.

DRIVE also questioned Porsche about its super-slim spare wheel, which might be

frowned on by local lawmen — despite Porsche's view that the 'emergency' tyre is safe to use. The reply was that owners are warned that they risk prosecution in this country if they use the tyre, and that Porsche is not inclined to make what would be a major body change just for the UK market...

For the technically minded, only the block, crankshaft and connecting rods have been retained from the original engine. A new alloy cylinder head features platinum-tipped sparkplugs sited on the induction side of the engine, a new combustion chamber shape, and different pistons to reduce the compression ratio to 7.5:1. Combined with a turbocharger



boost of 10psi, the effective compression ratio is 10.8:1.

The KKK turbocharger fits neatly in the lee of the canted power unit and, with a larger Bosch K-Jetronic petrol-injection system, increases the max-

imum power output to 170bhp — and at a lower engine speed (5500rpm instead of 5800rpm). The increase in torque is even more impressive, reaching 181lb ft at 3500rpm.

On our first meeting with the

DRIVE ON-THE-ROAD NEW-CAR PRICE-GUIDE

What's it called? How much does it cost? DRIVE's superguide to the latest prices of new cars currently available in Britain tells you all you need to know, immediately, whether you're buying or just browsing. And our prices aren't just what the manufacturer says: we tell you the size of the cheque you can expect to write to put your new Mini or Rolls on the road, seatbelts, numberplates, road-fund licence and delivery paid. Want to know more? Well, if the car of your choice has a DRIVE/AA road-test report number beside it, you can have a copy of the best car criticism in the business. AA members can apply to their regional AA office — address in *Handbook*. Otherwise, write to DRIVE New-car Price-guide, Fanum House, Basingstoke, Hants, RG21 2EA. But we must now ask readers who request more than one to pay 10p for each report.

(a) denotes road test on automatic model only; delivery charges where applicable estimated on an average 200 miles.

Model	Manual	Auto	DRIVE/AA Road Test
AC (18 dealers)			
3000ME	13440	—	
ALFA ROMEO (157 dealers)			
Alfasud Super			
1.3 (1350)	3950	—	
Super 1.5	4150	—	
Ti 1.5	4350	—	
Sprint Veloce	5450	—	
Giulietta 1.6	5150	—	D25/79
1.8	5450	—	
2000L	6050	—	
GTV2000	6850	—	
GTV2000SE	8048	—	
ASTON MARTIN (13 dealers)			
V8	30107	30107	
V8 Vantage	32608	—	
V8 Volante	38108	38108	
Lagonda	—	50042	
AUDI (355 dealers)			
80LS	5509	5863	
GLS	6008	6361	D18/79
GLE	7216	—	
100 Avant L	6307	—	
L55	6811	7369	
GL 5S	7565	8122	
L5D	7625	—	
Avant GL 5S	7752	8310	
GL 5E	7969	8528	
CD 5E	—	9982	
Avant CD 5E	—	10449	
AUSTIN MORRIS (1850 dealers)			
Mini 850 City	2619	—	RTR340
850 Super	2877	—	
1000 Super	2949	3396	D3/78
Clubman			
(1098cc)	3255	—	
Clubman			
(998cc)	—	3702	D3/78
estate			
(1098cc)	3534	—	
estate			
(998cc)	—	3981	
1275GT	3644	—	
Allegro 1100DL	3340	—	
1300 2dr	3466	3913	
4dr	3596	4043	
1300L 2dr	3841	—	
4dr	3945	4350	
1300HL 4dr	4311	4758	RTR377
1300 estate	3844	4291	
1300L estate	4120	4567	
1500L 4dr	4046	—	
1500L estate	4294	—	

1500HL 4dr	4484	—	D5/79
1750L 4dr	—	4487	
1750L estate	—	4735	
1750HL 4dr	4650	4925	
1750HL estate	5077	5482	
Vanden Plas			
1500 4dr	5385	5826	
Marina 1300	3560	—	
4dr	3702	—	
1300L 2dr	3834	—	
4dr	3945	4350	RTR392
1300HL 4dr	4352	4757	
1300 estate	4186	—	
1700 4dr	3971	—	
1700L 4dr	4214	4619	
1700HL 4dr	4651	5056	D4/79
1700 estate	4437	—	
1700L estate	4679	5084	
1700HL estate	5077	5482	
Maxi 1750	4531	5008	
1750HL	4791	5268	
1750HLS	4921	—	
Princess 1700L	4578	5083	
1700HL	5015	5520	
1700HLS	5498	6003	
2000HL	5290	5795	
2000HLS	5771	6276	
2200HLS	6271	6776	
BENTLEY (78 dealers)			
T2 Series	—	39390	
Corniche	—	58563	
Convertible	—	62189	
BMW (144 dealers)			
316	5311	—	R1149
320	6680	7117	R1149
323i	7761	8198	D12/79
518	6866	—	
520	7983	8420	D2/78
525	9101	9584	
528i	10326	10808	
635CSi	18951	18951	
728i	12056	12606	
732i	13854	14404	
735i	15606	15960	
BRISTOL (0 dealer)			
412 S2			
convertible-saloon	—	32817	
412/S3			
Beaufighter	—	38098	
603 S2	—	39318	
BUICK (5 dealers)			
Century	—	9578	
CADILLAC (5 dealers)			
Seville Elegante	—	21769	
Elegante (lhd)	—	19396	
Seville	—	18362	
Seville (lhd)	—	15989	

Fleetwood			
Brougham			
d'Elegance	—	15869	
CATERHAM CARS (0 dealers)			
Super Seven TC	5556	—	
1600GT	4824	—	
CHEVROLET (5 dealers)			
Caprice Classic	—	12904	
Classic (lhd)	—	10680	
Classic estate	—	13028	
Classic estate (lhd)	—	10805	
Monte Carlo coupé	—	9878	
Corvette (lhd)	—	12228	
CITROËN (266 dealers)			
2CV6	2318	—	RTR118
Dyane	2549	—	D1/79
Visa Club	3445	—	
Super	3562	—	
GS special	3633	—	
estate	3899	—	
GS 1220 Club	3766	—	RTR384
Pallas	4182	4425	
estate	4021	—	
GSA (1299cc)			
Club	4193	4348	
Pallas	4532	4687	
estate	4406	4663	
CX Reflex	5733	—	
Athena	6711	—	
2400 Pallas	7657	7872	
2500 Diesel			
Super	7235	—	
Diesel Pallas	7857	—	
2400 Pallas			
Injection	—	8360	
GTI	8337	—	
Prestige			
Injection	—	11122	
2400 Super			
estate	7155	7505	
5-speed	7290	—	
2500 Diesel			
Super estate	7558	—	
5-speed	7694	—	
Familiale 2400			
Super	7284	7634	
5-speed	7420	—	
2500 Diesel	7685	—	
5-speed	7821	—	
COLT (280 dealers)			
GLX 3dr			
hatchback	4049	—	
GLX 5dr			
hatchback	4299	—	
Lancer 1400GLX	4449	—	
1600GSR	4849	—	
Celeste 1600ST	4549	—	

GS	4709	—	
2000GT	5049	—	
Sigma 1600GL	4709	5054	
2000GLX	5349	5694	RTR432
estate	5949	—	
Sapporo 2000	6649	6994	
DAIHATSU (78 dealers)			
F20 soft top	4941	—	
hard top	5101	—	
F50 soft top			
(diesel)	5435	—	
hard top			
(diesel)	5595	—	
Charade XG	3101	—	
estate	3471	—	
XTE			
DATSUM (400 dealers)			
New Cherry 3dr			
hatchback	2898	—	
GL 3dr	3129	—	
4dr saloon	3192	—	
5dr estate	3408	—	
3dr coupé	3602	—	
Sunny 1200GLS			
2dr	3388	—	
4dr	3495	—	D20/79
1400GLS 2dr	—	3860	
4dr	—	3957	
1200 estate	3729	—	
1400 coupé			
4-speed	3829	—	
1400 fastback			
estate	4031	—	
Violet 140J Mk 3	3823	—	R1132M
160J Mk 3	3906	4204	
SSS coupé	4391	—	
Bluebird 160B			
Mk II	4122	—	
180B	4230	—	
180B estate			
Mk II	4584	—	RTR316
180B SSS Mk II	4730	—	
Laurel 2litre			
Mk II (PAS)	5628	5968	
2.4litre (PAS)	6328	6668	
Skyline 240K			
coupé	6893	7233	
280ZX 2-seater	8760	9100	
280ZX 2+2	9714	10054	
280C saloon	7225	7566	
280C estate	7054	7394	
DE TOMASO (3 dealers)			
Pantera GTS	19278	—	
Longchamp	—	21502	
Deauville	—	24635	
FERRARI (18 dealers)			
Dino 308GT4	17642	—	
308GTB	19081	—	
308GTS	20009	—	
400GT	31916	31916	
512B	33188	—	
FIAT (406 dealers)			
126	2222	—	
de Ville	2440	—	D1/79
127 900L 2dr	3000	—	R1137
1050L 3dr	3200	—	
1050CL 3dr	3413	—	RTR429
Sport	3771	—	
128 1300CL	3504	—	

Turbo, we couldn't think of any equipment that it lacked: the standard package includes electrically operated door mirrors with heating elements for frosty mornings.

God willing, we'll report further on the Turbo next issue, when it's pitted against Maserati's Merak and the Lotus Esprit 702.

Derv'll take the rest

ON THE CONTINENT, the swing to diesel continues, with everyone who is anyone making at least one saloon that runs on derv. Unlike the UK, where taxation makes diesel fuel more expensive than petrol, European

derv costs about 40-60% of the price of 2-star. It's not surprising, therefore, that VW-Audi is widening its range of diesel models, for it cannot make enough diesel Golfs to satisfy demand.

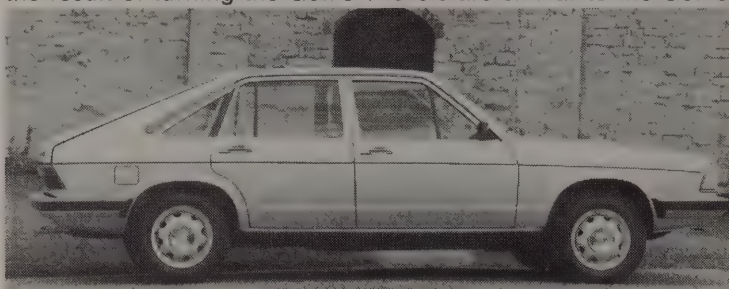
The new VW Passat diesel is the result of turning the Golf's

unit round and fitting it into the estate car's engine bay. Because it's a bigger car than the Golf, acceleration feels more leisurely — sometimes embarrassingly so when pulling out from sideroads and trying to merge into the traffic. Noise levels are similar to the Golf's,

however which means idling rattles and vibrations that smooth out nicely at higher speeds.

The interesting new five-cylinder derv engine for the Audi 100 is especially impressive. This 1986cc unit delivers 70bhp, and its performance, on a brief test run, seems about the same as the Golf LD's — which is very acceptable. We haven't yet done our own fuel tests, but anticipate 35-40mpg from the five-cylinder and a good 45mpg from the Passat, compared to an overall 51mpg in our test of the Golf LD.

But perhaps the most impressive part of the diesel Audi is its refinement: cruising along the motorway or round sideroads,



ON-THE-ROAD NEW-CAR PRICE-GUIDE

CL estate	3771	—	
X1/9 1500	5684	—	D14/79
Mirafiori 1300CL	3976	—	
4dr	4105	—	
1600CL 4dr	4500	5203	
estate	4751	5054	RTR412
Supermirafiori			
1600TC	5025	5352	D10/78
estate	5209	5536	
Mirafiori Sport	5599	—	
132 2litre	5893	6234	
Bellini	6114	6453	
Strada 65L			
1300 3dr	3509	—	
65L 1300 5dr	3627	—	
65CL 1300 3dr	3794	—	
65CL 1300 5dr	3930	—	
75CL 1500 3dr	4229	4568	
75CL 1500 5dr	4349	4658	D17/79
900T Super			
Amigo	4415	—	
900T Amigo XL	4827	—	

FORD (1240 dealers)			
Fiesta 950	3050	—	RTR417
950L	3398	—	
1100	3216	—	D16/79
1100L	3552	—	
1100S	3898	—	
1100 Ghia	4176	—	RI170
1300S	4098	—	
1300 Ghia	4375	—	
Escort 1100			
Popular Plus	3248	—	
1100 Popular			
Plus 4dr	3380	—	
1100L	3504	—	
1100L 4dr	3636	—	
1100 estate	3470	—	
1300 Popular			
Plus	3383	—	D4/78
1300 Popular			
Plus 4dr	3512	—	
1300L	3603	3967	
1300L 4dr	3735	4099	
1300GL	3877	4241	
1300GL 4dr	4010	4374	
1300 Sport	4172	—	
1300 Ghia	4380	—	
1300 Ghia 4dr	4514	—	
1300 estate	3651	—	
1300L estate	3999	4363	
1300GL estate	4349	4713	
1600L	3949	4313	
1600 Sport	4289	—	
1600GL	4224	4588	
1600 Ghia	4630	4994	D4/79
Cortina 1300	3733	—	
1300 4dr	3873	—	
1300L	4090	—	RTR372
1300L 4dr	4229	—	
1600 4dr	4089	—	
1600L	4445	4809	D22/79
1600GL	4919	—	
1600 Ghia	5629	5993	
1600 estate	4528	—	
1600L estate	4926	5290	
1600GL estate	5406	5770	
1600 Ghia			
estate	6102	6466	
2000GL	5177	5541	
2000 Ghia	5788	6152	
2000GL estate	5664	6028	RTR413

2000 Ghia			
estate	6261	6625	
2300GL	5823	6187	
2300 Ghia	6433	6797	
2300GL estate	6310	6674	
2300 Ghia			
estate	6906	7270	
Capri 1300L	4108	—	RTR373
1600L	4330	4694	
1600GL	4679	5043	RTR342
1600S	5319	—	
2000GL	4962	5326	
2000S	5543	—	RI166
2000 Ghia	6148	6512	
3000S	5950	—	
3000 Ghia		6958	RI114
Granada 2000L	5844	6288	RI128
2000L estate	6455	—	
2100 diesel	6305	—	
2300L	6470	6914	
2300GL	7818	8262	
2300L estate	7081	7525	
2300GL estate	8060	8504	
2800GL	—	8625	
2800i GL	9016	—	
2800 Ghia	—	9739	
2800i Ghia	10181	10625	
2800GL estate	—	8625	D8/78
2800i GL			
estate	9250	—	
2800 Ghia	—	10091	D8/78
estate	—		
2800i Ghia			
estate	10533	—	
RS2000	4887	—	
Custom	5511	—	

FORD USA (15 dealers)			
Mercury Monarch			
Ghia (rhd)	—	9428	
Mustang Ghia			
Turbo (lhd)	7879	—	

HONDA (236 dealers)			
Civic 1300 3dr	3128	3358	RTR362
1300 5dr	3328	3558	RI155
Accord 3dr	4378	4598	RTR420
4dr	4518	4788	D4/79
Executive DL	—	5198	
Prelude	5088	5358	

JAGUAR-DAIMLER (319 dealers)			
Jaguar XJ6 3.4	14130	14130	RTR380
XJ6 4.2	15481	15481	
XJ12 5.3	—	18298	RTR305
XJS	—	19329	RTR394
Daimler			
Sovereign 4.2	16475	16475	
Double Six	—	19287	
Vanden Plas 4.2	—	20678	
Double-Six			
Vanden Plas	—	25137	

JEEP (78 dealers)			
CJ7 soft top	5653	—	
hard top	6068	—	
Renegade			
soft top	7197	—	
hard top	7570	—	
CJ Golden Eagle	7197	—	
hard top	7570	—	
Cherokee 4dr			
(6-cyl)	9571	9678	

S (6-cyl)	—	10551	
SV8	—	11169	D2/79
Chief V8	—	11488	
Golden Eagle	—	11828	

LADA (200 dealers)			
1200	2408	—	RI175
estate	2719	—	
1300ES	2806	—	D4/78
1500 estate	2863	—	
1500ES estate	3227	—	
1600	3078	—	RI173
1600ES	3478	—	RI173
Niva	4399	—	

LANCIA (140 dealers)			
1600	5146	—	
2000	5439	5894	RI17
2000ES	5819	6274	
Beta coupé	5113	—	
1600	5828	—	
2000	6304	—	
Beta Spyder			
2000	6851	—	
Beta HPE 1600	6576	—	
2000	7108	—	
Gamma Berlina	8012	—	
Gran Turismo	10011	—	

LAND-ROVER (486 dealers)			
Land-Rover	5601	—	
diesel	6406	—	
lwb	6516	—	
lwb (diesel)	7321	—	
lwb (6-cyl)	6631	—	

LOTUS (33 dealers)			
Elite 501	14836	15233	
502	15801	—	
503	16387	—	
504	—	16605	
Éclat 520	13134	—	
521	14162	14559	
522	15159	—	
523	15719	—	
524	—	15968	
Esprit 701	14335	—	
702	15030	—	

MASERATI (9 dealers)			
Merak SS	19054	—	
Kyalami	25757	—	
Khamzin	28248	—	

MAZDA (249 dealers)			
1300 hatchback	3655	—	D4/78
1300 hatchback			
5dr	3855	—	RTR424
1.4 Special			
hatchback	4055	—	
1400 hatch 5dr	—	4155	
1400 estate	4055	—	D5/79
Montrose			
1600GL	4505	—	
GLS	4805	—	
2000GLS	5105	5421	D23/79
GLS coupé	5605	5955	
2000 estate	5755	6155	
RX-7	8705	—	
TWR coupé	7355	—	

MERCEDES-BENZ (98 dealers)			
200	7928	—	
200D	8104	—	

230	—	9070	
230C	—	11057	
240D	9086	9682	
240D lwb	14199	14639	
240TD estate	10586	10586	
250	—	10490	
250T	—	11864	
250 lwb	—	14199	
300D	—	11302	
280E	—	12507	D4/79
280SE	—	14614	
280CE	—	13581	
280TE estate	—	13993	
350SE	—	16996	
350SL	—	16825	
450SE	—	18295	
450SEL	—	19317	
450SL	—	17976	
450SLC	—	21143	
450SEL 6.9	—	30632	

MORGAN (18 dealers)			
4/4 1600	5772	—	
4-str	6363	—	
Plus 8	8294	—	

MG (1850 dealers)			
MG Midget	3957	—	
MGB Sports	5300	—	RTR243
MGB GT	6029	—	D13/79

OPEL (233 dealers)			
Kadett L 2dr	3463	—	
L 4dr	3603	—	
L 3dr estate	3866	—	
LS 2dr	3677	—	
LS 4dr	3818	—	
LS 3dr	3778	—	
LS 5dr	3920	—	
LS 3dr estate	4143	—	
LS 5dr estate	4284	—	
GL 4dr	4274	—	
GL 5dr	4374	—	
GL 5dr estate	4673	—	
Berlina 4dr	4727	—	
Berlina 5dr	4827	—	
SR	4628	—	
Ascona SR	5080	—	
4dr L	4067	—	
4dr GL	4457	4887	
4dr GL 2.0	4682	5112	
Berlina 2.0	5240	5670	
Manta 2.0			
Berlinetta			
hatchback	5927	6357	
coupe	5794	6224	RTR407
Rekord 4dr	5602	6059	
Berlina	5894	6351	
Berlina HL	6775	7232	
estate GL	6343	6800	
GL diesel	6640	7097	
estate DL			
diesel	7161	7618	
Senator 2.8S	8760	9309	
Senator	—	11497	
Monza coupé	11808	11808	

PANTHER (35 de Ville, 3 Lima dealers)			
J72 4.2	24135	24558	
de Ville 5.3			
saloon	—	58390	
convertible	—	72355	
Lima	8390	8813	
Lima Turbo	11090	—	

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there is little more than a loud hum to give the game away, and no vibration at all — except if you are clumsy with the accelerator in traffic. It's a very economical way of floating around in the grand manner.

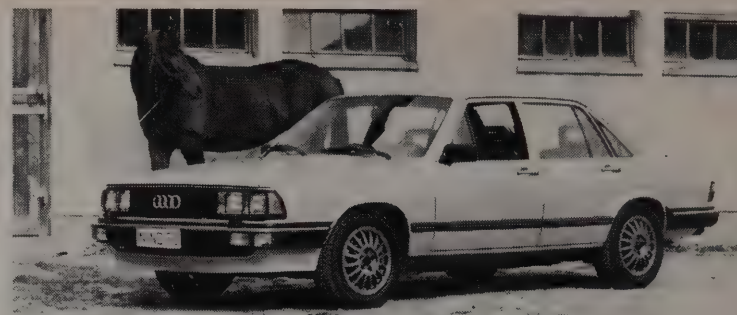
See Audi run

Meanwhile, back at the mansion, Audi fans with no need to justify their lifestyle will be putting down their double-barrelled names for the 200 5T, due to make its debut at the Geneva Motor Show in March.

The 'T' stands for turbo, of

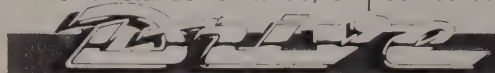
course, blowing 170bhp from the 2.2litre engine; blowing your mind, too, if you are in a country that allows you to floor the accelerator — 0-60mph in around 8½sec, a top speed of 135mph. And our short burst convinced us that either Audi's figures are conservative or the speedo is wrong...

It does it all in such civilised surroundings, too — central door-locking, electric windows, three cigar lighters, ribbed-velour seats (headlining to match, featuring eyelevel digital clock); anything not there comes as a factory option —



from air-conditioning and electrically heated seats to the *sine qua non* ski bag. But perhaps the most impressive extra of

them all on this audacious Audi is the new anti-lock braking system to be launched this August. The 200 5T's braking is



ON-THE-ROAD NEW-CAR PRICE-GUIDE

PEUGEOT (262 dealers)			
104GL	3279	—	RTR406
104ZL	3158	—	
104GR	3609	—	
104SR	3758	—	
104ZR	3488	—	
104ZS	4098	—	RI146
104S	4218	—	
304GL estate	3910	—	RTR386
304SL estate	4207	—	
305GL	4058	—	D9/78
305GR	4407	—	D9/78
305SR	4825	—	RI162
305GRD (diesel)	5102	—	D19/79
504GR	4913	5485	
504GRD	5617	—	
504 estate	5458	—	
diesel estate	6130	—	
GR estate	6159	6731	
Family estate	6470	7042	
diesel estate	7261	—	
505GR	6128	6718	
SR	6612	7203	
TI	6716	7306	
STI	7200	7791	
GRD	6903	—	
SRD	7387	—	
604SL	8601	9173	
TI	9972	10420	
D Turbo	9667	—	

POLSKI FIAT (113 dealers)			
125P	2584	—	RTR379
estate	2940	—	
Polonez	3500	—	

PONTIAC (5 dealers)			
Firebird	—	9864	
Trans-Am	—	9864	

PORSCHE (19 dealers)			
924	9276	9755	D7/78
924 Lux	9755	10133	
924 Turbo	13802	—	
911SC (coupé or targa)	16282	—	
911 SC (sport coupé or targa)	17527	—	
928	21900	21900	
928S	25424	25424	
Turbo	28123	28123	

PORTARO (25 dealers)			
Pampas 250D	6660	—	
250DL	7020	—	
250DPU	7151	—	
250DP	7288	—	

RELIANT (180, and 75 Scimitar dealers)			
Robin 850	2755	—	
estate	3005	—	
Super Robin 850	3155	—	
estate	3355	—	
Kitten DL	3437	—	D21/79
DL estate	3697	—	
Scimitar GTE	9500	9500	RTR303

RENAULT (447 dealers)			
4	2976	—	RTR364
4TL	3020	—	RTR364
4GTL	3222	—	
5	3012	—	
5TL	3390	—	D3/78
5GTL 3dr	3569	—	RI143
5dr	3723	—	RTR370
5TS	3966	—	
5 auto	—	4040	
5 Gordini	5053	—	

12TL	3865	—	RTR385
estate	4306	—	RTR374
14TL	3812	—	RTR414
14GTL	3943	—	
14TS	4418	—	D6/78
18TL	4059	—	
estate	4433	—	
18TS	4459	—	D15/79
estate	4863	5188	
18GTL	4672	—	
18GTS	5124	—	
18 auto	—	5162	
20TL	5464	—	
20LS	6021	6346	RTR409
20TS	6586	6911	
30TS	7864	8189	D12/78
30TX	9277	9602	RI134

ROLLS-ROYCE (78 dealers)			
Silver Shadow II	—	39390	RTR312
Silver Wraith II	—	46379	
Corniche	—	58563	
Convertible	—	62189	
Camargue	—	71308	

ROVER-TRIUMPH (950 dealers)			
Rover 2300	6717	7172	D8/78
2600	7841	8091	
3500	9817	10067	RTR428
V8S	11429	11679	
Range Rover 3.5	12538	—	D2/79
Triumph Spitfire	4444	—	
hardtop	4609	—	
Dolomite 1300	4133	—	
1500	4435	4867	
1500HL	4935	5367	
1850HL	5501	5933	
Sprint	6675	6834	
TR7	5891	6170	

SAAB (193 dealers)			
99GL 2dr	5292	—	
99GL 4dr	5762	6262	RTR419
99 2dr Turbo	7877	—	
900GL 3dr	6477	—	
900GLS 3dr	6767	7322	
900GLS 5dr	7047	7677	
900EMS 3dr	7847	—	
900GLE 5dr	—	8682	
Turbo 3dr	10037	—	
Turbo 5dr	10437	—	

SKODA (285 dealers)			
S110R coupé	2274	—	
105S	2149	—	
105L	2343	—	D1/79
120L	2395	—	
120LE	2594	—	
120LS	2843	—	
120LSE	3044	—	

SPARTAN (0 dealers)			
Sports 2dr	4790	—	
2+2	5145	—	

SUBARU (89 dealers)			
1600DL 2dr	3313	—	
4dr	3462	3873	D6/78
Custom 4dr	3649	—	
coupé	3325	—	
GFT	3861	—	
GLF	4123	—	
4wd	5199	—	
DL estate	3687	—	
4wd estate	4587	—	D2/79

SUZUKI (23 dealers)			
SC100	2550	—	

LJ80 4wd	3350	—	
LJ80V 4wd	3800	—	

TALBOT (650 dealers)			
Sunbeam 1.0LS	3073	—	RI164
1.0GL	3355	—	
1.3LS	3313	3685	
1.3GL	3596	3968	
1.6GL	3743	4115	D6/78
1.6GLS	4250	4622	
1.6Ti	4553	—	
Lotus	7120	—	
Avenger 1.3LS	3444	3816	D9/78
1.3GL	3914	4286	
1.3LS estate	3833	4205	
1.3GL estate	4327	4699	
1.6LS	3576	3948	
1.6GL	4046	4418	RTR405
1.6GLS	4418	4790	RTR339(a)
1.6LS estate	3965	4337	
1.6GL estate	4459	5045	
Horizon LS (1118cc)	3440	—	
LS (1294cc)	3597	—	
GL (1118cc)	3921	—	D5/79
GL (1294cc)	4078	—	
GLS (1294cc)	4470	—	
SX	—	5070	
2litre	5086	5425	RTR308
Alpine LS (1294cc)	4147	—	RI151
LS (1442cc)	4338	—	
GL (1442cc)	4860	—	
GLS (1442cc)	5562	—	RTR381
1600SX	—	6615	
Matra Rancho	6436	—	

TOYOTA (232 dealers)			
Starlet GL 3dr	3179	—	D3/79
GL 5dr	3276	—	D3/79
1200 3dr	3408	—	
1200 5dr	3510	—	RTR399
Corolla	—	—	
30-1200DL 2dr	3144	—	
1200DL 4dr	3263	3469	
estate	3531	—	
1600 Liftback	3915	—	
Carina 1600DL	3976	4269	D10/78
estate	4277	—	
Celica 1600ST	—	—	
coupé	4465	—	
2000ST	—	—	
Liftback	4858	—	RTR423
2000XT	—	—	
Liftback	5598	5795	
2000GT	—	—	
Liftback	5903	—	
Cressida	—	—	
2000DL	4674	4985	
estate	5026	5161	
Crown 2600	—	—	
Super	—	8126	
Corona 1800	—	—	
Liftback	5404	5604	

TVR (26 dealers)			
3000M	8196	—	
convertible	8931	—	
Taimar	9185	—	D7/78
Turbo	12196	—	
convertible	12913	—	
Taimar Turbo	13185	—	
Tamsin	13001	—	

VAUXHALL (650 dealers)			
Chevette E	3101	—	
E 3dr	3149	—	
E 4dr	3277	—	

L 2dr	3389	3734	
L 3dr	3437	3782	
L 4dr	3515	3860	RTR396
L estate	3825	4170	
GL 3dr	3807	4152	D3/79
GL 4dr	3885	4230	
2300HS 3dr	6119	—	
Viva E	3052	—	RTR378
E 4dr	3174	—	
1300L 2dr	3331	—	
L 4dr	3453	—	
L estate	3699	—	
GLS estate	4131	—	
GLS 2dr	3762	—	
GLS 4dr	3884	—	
1800GLS 4dr	4084	4419	
Cavalier 1300L	3837	—	D9/78
1300L 4dr	3962	—	D9/78
1600L 2dr	4043	4473	RTR382
1600L 4dr	4169	4599	RI163(a)
GL 4dr	4631	5061	
GL 2000 4dr	4874	5304	
GL Sports hatch	—	4948	5378
GL Sports hatch	—	5410	5840
2000GL 4dr	4874	5304	RI152
GLS 4dr	5337	5767	
GLS 2000 sports hatch	5653	6083	
Carlton 2000	5807	6264	D12/78
estate 5dr	6377	5834	
Royale	9891	9891	D24/79
coupé	10249	10249	

VOLKSWAGEN (355 dealers)			
Polo N900 3dr	3236	—	RTR408
L900 3dr	3559	—	RTR408
GLS 1100 3dr	3921	—	
Derby	—	—	
S1100 2dr	3422	—	
LS 1100 2dr	3771	—	D3/79
GLS 1300 2dr	4126	—	RI168
Golf N 1100 3dr	3572	—	
L 1100 5dr	4039	—	
LD (diesel)	—	—	
1500 5dr	4855	—	RI160
LS 1300 3dr	4226	—	
GLS 1300 5dr	4693	—	
GLS 1460 5dr	—	5052	D6/78
GTI 1600 3dr	5256	—	
Passat LS 1600	5192	5526	RTR388
GLS 1600 5dr	5621	5955	RI165
LS estate	5491	5825	
GLS estate	5983	6317	
LD estate (diesel)	5905	6239	
Scirocco GLS	—	—	
1600 coupé	5852	6237	D6/79
GLI	6801	—	
Storm	7297	—	

VOLVO (237 dealers)			
343DL	4302	4526	D10/78
345DL	4601	4827	
244DL	6146	6626	RTR426
SR	6540	7018	
244GL+o/d	7530	7889	RTR426
244GLE	8147	8535	
245DL estate	6887	7364	RTR368
245GL estate	7601	7961	
245GLE estate	8261	8623	
264GL	8707	9067	
264GLE	9857	10146	RTR395
265GL estate	8864	9224	
265GLE estate	9660	10019	
262 coupé	—	14438	

already Audi-good; with anti-lock, it should be ... well, unstoppable is hardly the word.

There's no doubt that this is Audi's rival for the Jags, Mercs and BMWs. We'll swear we saw the tears of pride start to the eyes of design head Ferdinand Piech as he told us so.

And the reason for all this extravagance? Ferdinand explains it as Audi's contribution to the energy crisis — restrained opulence, 135mph and around 25mpg ... not all at the same time, of course. Managing director Mike Heelas, on the other hand, realistically says that, given Audi's already-good penetration of Britain (only W Germany and the US buy more Audis), the only way is up-market. Which is also why he's not importing the non-turbo version of the 200 — the 5E. He hopes to sell 1000 5Ts, mostly automatics, in the UK in 1980 at £13,200-£13,500 — 'but if anyone wants a manual, we can do it at no extra cost.'

How times have changed. ● Whatever next from Audi, you ask? Well, how about the Quattro, tipped for later this year — a four-wheel-drive 'with', says our straight-faced Audi informant, 'rally potential'.

Members only

THE 1980-1981 AA Members' Handbook will be available from 1 April, and only a fool would risk driving without it.

The AA is sure to retain its place in the Guinness Book of Records as placing the largest single print order in the world, for, this time, 4.8million handbooks will roll off the presses. Again, they will be distributed through AA outlets to save the otherwise massive postage bill, but any member wishing to receive his or her copy through the letterbox has the option of paying 45p p&p.

Research for the handbook never stops, and, while much of the work consists of improving its presentation and updating information, the book includes some new features — such as a conversion table to help your forecourt calculations now that more and more petrol pumps are selling in litres instead of gallons. As before, the book is free to AA members and extra copies cost £2 each.

Loaded questions

HAULAGE FIRMS are warning that higher freight costs and late deliveries could be the result of a Berkshire road scheme. The Road Haulage and Freight Transport Associations are awaiting the outcome of their court appeal against Berkshire County Council, for a victory for Berkshire will almost certainly

Shape of Fords to come?

UNVEILED ... what could be the successor to the current Cortina, two years from now (top); the next Granada saloon and estate versions, (centre left and right); and the Escort coupé (bottom); which, it is being whispered, could replace the Capri in 1983.

These artists' impressions are based on drawings at the design studios of Ford of Germany, in Cologne. The Ford Taunus is earmarked for 1982 and, if history is any guide, the

Cortina will look just like it: when the Dagenham-assembled Mk IV Cortina was introduced in Gt Britain in September 1976, the identical car was being unwrapped in Germany but with the Taunus name.

The Taunus 82 (codename Toni) will be lighter, for improved fuel consumption. It is also likely to have front-wheel drive, which could mean the end of the V6 engine.

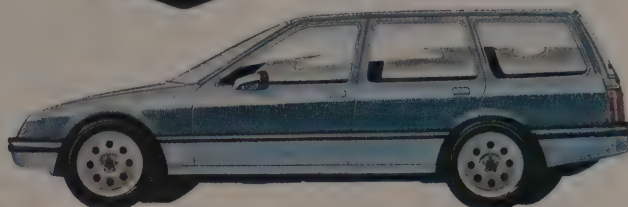
Also on the drawing-board is the Granada replacement due

in three years' time. Although a sloping rear end is likely for the saloon, it is not yet clear whether it will feature a hatchback.

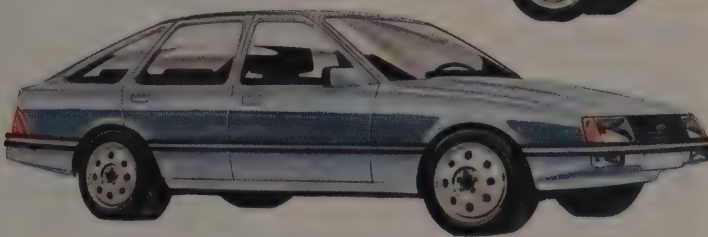
Pictures of the Escort — previously code-named Erica, due to make its debut at the Birmingham NEC Motor Show this October — have already been published. But this impression of a coupé variant is new. A medium-range model, it's scheduled for 1983, and early reports suggest that it will replace the ageing Capri.



Cortina



Granada estate



Granada saloon



Escort coupé

Auto Zeitung, Cologne

spur other local authorities into following its example and banning heavy lorries from many roads that the hauliers see as vital to their work.

Berkshire's scheme is centred on what's known as the Windsor Cordon, a 40-square-mile area of the royal town in which several roads have been closed to lorries weighing more than five tons unladen. Even firms making deliveries in the cordon must first obtain a special permit.

The 18-month experimental period ended last December — when the order for the ban became permanent.

Says George Mitchell, secretary of the Road Haulage Association's highways-and-

traffic committee: 'Our main worry is that councils up and down the country could jump on Berkshire's bandwagon and restrict access to many roads, even where there aren't easy alternatives. What's more, our drivers would have to obtain a long list of permits before setting out on a long run. All this would increase our costs.'

'Local authorities are acting out of concern for road damage that really stems from lack of maintenance caused by Whitehall's spending axe. Their action could rebound on us drastically.'

One for the road

LOOKS LIKE the demon alcohol could be the saviour of future motorists. Currently on test by

car-hire firm Avis is a new blend of petrol that could make each precious gallon of petroleum go farther.

Hydrofuel, evolved by United International Research, is three parts ordinary (but lead-free) petrol and one part a mixture of alcohol, water and an additive that keeps everything nicely mixed. First results are 'encouraging'.

Alcohol is already a popular fuel in Brazil, where it's made in vast quantities from distilled sugar-cane juice. Volkswagen and Fiat already produce cars that are tuned to run on it.

Slightly nearer home, Austrian authorities are considering spiking all locally sold petrol, next year, to make each gallon of oil-based fuel go

farther, but Goodyear's tyre specialists have found a more-novel use for moonshine.

It seems that distilled grain alcohol can produce a substance to replace the oil-based additive that gives synthetic rubber its elasticity and flexibility. And, for good measure, it also provides the energy for the manufacturing process.

It can take seven gallons of petroleum to make a radial tyre, says Goodyear — five for raw materials and two for power — so grain alcohol really could give significant fuel savings.

Plus fours

FOUR-WHEEL-DRIVE is conquering new fields — see page 7. The next convert is expected to be Toyota, currently experiment-

NO, THEY'RE NOT the latest in economy cars, just some of today's many petrol-powered runabouts built for motoring-mad rich kids. Lined up for the massed start to DRIVE's test day were 14 models, ranging from £260 mini-racers to an £1840 model Bugatti. And, when the haze of 2-stroke mixture had cleared, after a morning's closed-circuit competition, our junior testers gave us their verdicts — below.

It must be admitted, however, that DRIVE's fully-grown testers beat them to it: our professionals reverted to their childhoods for a few days when they discovered that some of these toys could reach speeds of up to 30mph. When you're sitting only inches off the ground that's fast — too fast for a child's safety — and AA engineers used a variety of tricks to slow 'em down.

1 Super Vee £918.85

Supplier Marcus Racing
Construction tubular-steel chassis, glass-fibre body
Engine 127cc 4-stroke, single-cylinder, air-cooled
Starter recoil

Brakes single discs on offside-rear wheel

'The best-looking car, and very comfortable, but it went much too fast to be controlled properly,' said Justin Raikes (nine). 'Going round corners, it felt as if it was going to turn over.'

Prophetic words. At the end of the day, Master Justin Taylor, nine-year-old son of a DRIVE car tester, found the Achilles' heel of this mini Beetle cabriolet and turned it over during spirited cornering. (The worried importer promises that the American-made toy will in future be governed to 15mph, and get a full rally harness.) Otherwise, it's well made, featuring working headlamps, electric horn, whitewall tyres, even a working speedo!

2, 9 Marcus Racer £258.75

Supplier Marcus Racing
Construction tubular-steel chassis, glass-fibre body
Engine 25cc 2-stroke, single-cylinder, air-cooled
Starter recoil

Brakes drum brake on near-side drive shaft, pedal-operated
'It was hard to get into,' said Jamie Houston, aged six, 'and I liked the model engine under the bonnet.'

Marcus Racing supplied two single-seat Racers, but, though they seemed well made and engineered, only one would actually start. The importer says that these were the last of the breed, and that future Racers will be bigger. With such nice details as genuine 10mm sparkplugs for the dummy engine under the bonnet, they could be worth waiting for...

3 Chinook £920

Supplier G F Faulkner
Construction tubular-steel frame, glass-fibre body
Engine 200cc 4-stroke, single-cylinder, air-cooled
Starter recoil

Brakes mechanically operated disc on back axle

'Too fast and dangerous, but, if you're more than nine years old, it's just right — not too fast and not too slow,' said Richard Aston, 12. 'It's comfortable and easy to steer, and I felt perfectly safe all the time.'

The Chinook had ample room for two adults, and its 200cc Honda engine ensured plenty of power. The rollover bar was as rugged as the rest of the vehicle — one of the few to have practical bumpers. Smaller children found the pedals a stretch.

4 Model-T Fire engine £1101.70

5, 6, 7 Model-T tow-truck, tourer, pick-up £929.20

Supplier Marcus Racing
Construction steel chassis and body, glass-fibre rear sec-



Child's play

ing with a system to adapt its new front-wheel-drive models for improved off-road and bad-weather traction. Toyota's great rival Datsun also has four-wheel-drive under test — initially intended for a small pick-up.

No room at the inns

THOUGH there are seven months to go before this year's Motor Show at Birmingham's National Exhibition Centre, the city's hotels are almost fully booked. Says a spokesman for the NEC-based information bureau: 'Already we are having to place people 20 miles away at Stratford-on-Avon and Leamington Spa.'

They'll be the lucky ones — by the time the show opens, the

nearest accommodation will be 30 miles or more away. In fact, many of 1980's 2830 beds in central Birmingham were snapped up during the last Motor Show ... So, if you're intending to stay overnight at the NEC, get your hotel fixed now by writing to the Information Bureau, NEC, Birmingham.

Gas leak

WHEN DID you last check your fuel system for leaks? If your car isn't examined regularly, you could be throwing your petrol away — literally.

The warning comes from the Freight Transport Association, which represents more than 15,500 carriers in the UK. In recent random tests of 485 lorries, almost half of them were

found to have fuel leaks from pipes, filters, injection equipment or tanks.

Anchors away?

RESEARCH CHEMIST Maurice Hiles sent shivers down drivers' backs when he warned that rust forming overnight on disc brakes could reduce a car's stopping power by 50% the first time they are used. And, he claimed, the loss of brake efficiency grows the longer a vehicle is out of use.

But the AA's chief engineer, Marcus Jacobson, dismisses Hiles' theory as 'scaremongering'. 'Any surface rust would be immediately dispersed by the friction of braking,' he says.

'What motorists should be wary of,' Jacobson stresses, 'is

the danger of brakes' sliding calipers seizing up — a condition more pronounced on a car's nearside, where dirt and de-icing-salt concentrations are highest.

'There can be a progressive build-up of a hard layer that could cause the sliding mechanism to fail, so owners should check the calipers at the end of each winter.'

Tobacco roads

A GERMAN professor has joined DRIVE's smoking debate, with the claim that smoking drivers are involved in more accidents than non-smokers.

In our July-August issue, last year, DRIVE told the story of Dr de Kearney, a Frenchman, who maintained that, during



tion, plastic wings and running-boards

Engine 148cc 4-stroke, single-cylinder, air-cooled; 206cc tow-truck

Starter recoil; electric start for tow-truck

Brakes mechanically-operated blocks on to tyres 'Comfortable to sit in; it's a pity they were so slow. Frightening when the faster cars came up close behind,' said Alexandra Raikes, aged 10.

If Ralph Nader got his hands on one of these American products, he'd have a fit. Marcus Racing delivered four versions of the Tin Lizzy, and all received a mauling. Seldom have we seen such crude construction, with many sharp corners and raw edges on tin bodywork.

Marcus Racing says that no more will be imported: future Model-Ts will be UK-built.

8 Blow Mirage £725

Supplier JJ Blow

Construction tubular steel, glass-fibre body

Engine 150cc 4-stroke, single-cylinder, air-cooled

Starter recoil

Brakes single mechanically-operated disc on rear axle 'Didn't look like a real car — but the more time you spent driving it, the more you enjoyed it,' said Roy Maslen, 10. 'It felt very safe because it was so close to the ground, it accelerated smoothly and the brakes were good.'

Any manufacturer of real cars would be delighted if he could build to the standard of the Blow Mirage — a futuristic grp-bodied go-kart. We had reservations about its ground clearance, however, as one of our young testers clipped a kerb and split the bodywork.

10 Bugatti Type 35 £1840

Supplier Tula Engineering

Construction aluminium and glass-fibre body

Engine 35cc two-stroke,

single-cylinder, air-cooled **Starter** recoil

Brakes outside lever operating drum on rear wheel

'A lovely, comfortable car, easy to steer and easy to stop — and it didn't rattle or shake at all. Going downhill was a bit frightening because it felt as if it was running away with me,' said Ayesha Walker, 12.

Adults love the Bugatti Type 35, appreciating it as a work of art. All that, however, was lost on our speed-hungry children.

11 Corvette £1035

Supplier Marcus Racing

Construction tubular-steel chassis, glass-fibre body

Engine 318cc 4-stroke, single-cylinder, air-cooled

Starter key-operated electric start, and recoil

Brakes hydraulic, pedal-operated disc fitted to offside drive shaft

'A lovely-looking car, but it was noisy and it rattled so much that your feet were gradually shaken off the pedals. Also, when you took your foot off the accelerator the car slowed up so suddenly that you were thrown forwards,' said Lisa Gould, 12.

The American-made Corvette had, like the Model-Ts, a reliability problem on our test day: the drive-chain kept falling off, and one child managed to pull off an hydraulic tube and lose the sophisticated braking ...

12 Bug-let Jeep £1040

Supplier R M Manufacturing (Line West Ltd)

Construction glass-fibre body with front suspension and rear subframe bolted on

Engine 50cc 2-stroke, single-cylinder, air-cooled

Starter push-start with rear clutch lever

Brakes single mechanically-operated drum

'The Bug-let's all right for little children, but it's cramped and

uncomfortable if you're over eight,' said Simon Gould, 11. 'I don't think that it should be allowed to go so fast.'

Basically the same vehicle as the dune-buggy Bug-let, with a different bodysell. Dad wouldn't be able to get into the driving seat without major surgery — a pity as, like the Chinook, this little car had a useful off-road performance.

13 Bug-let £1000

Supplier R M Manufacturing **Construction** glass-fibre body with front suspension and rear subframe bolted on

Engine 50cc 2-stroke, single-cylinder, air-cooled

Starter push-start with rear clutch lever

Brakes single mechanically-operated drum

'Just right for a six-year-old ... and the speed was good, too,' said Jamie Houston, aged six.

Superlative engineering and an unsurpassed level of safety, said our adults. Steering was an expensively-engineered rack-and-pinion system, and the suspension was sophisticated. We liked, too, the idea of an adult being needed to push-start the vehicle, so young drivers will always be supervised.

14 Colt Kart £400

Supplier J J Blow

Construction tubular-steel with glass-fibre seat

Engine 150cc 4-stroke, single-cylinder, air-cooled

Starter recoil

Brakes single mechanically-operated disc on rear axle

'Some of the cars went so fast that you couldn't control them properly, but the Kart was just right,' said Brian Masson, 15. 'Easy to steer and plenty of room for your legs, though the seat was uncomfortable.'

Dad could drive the Colt Kart — with a degree of discomfort — and we rate it as another 'best buy'.

ROBERT OXFORD

From TV screen to bookshelf

first . . .

and then . . .



and now . . .

ing 1978, 17,000 French motorists were injured and 650 killed as a result of smoking in cars.

Prof Ferdinand Schmidt, chairman of the medical council of the ADAC — the W German equivalent of the AA — says that the weed can lead to tiredness, poor concentration and impaired vision.

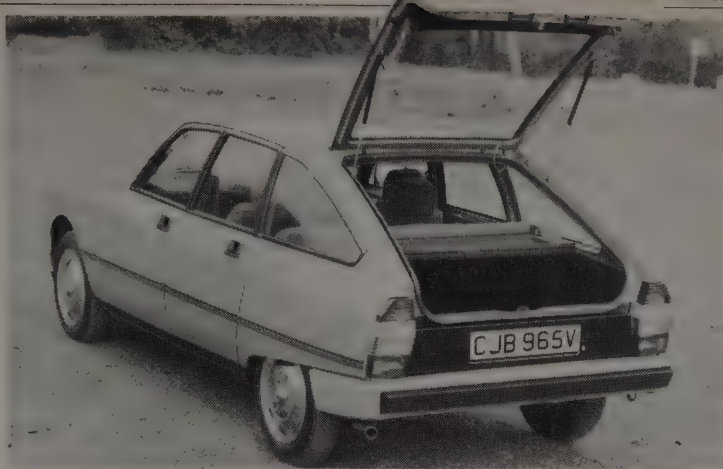
His opinion is certainly at odds with the findings of the Tobacco Advisory Council, which claims that smokers 'perform tasks in experimental situations more efficiently with cigarettes than without. And smokers maintain a constantly superior level of stimulus compared to non-smoking groups.'

The pro-smoking lobby also points out that depriving the addict of his nicotine will make him decidedly ratty — and claims that a short-tempered driver is a greater accident risk.

Cruiser class

THEY ARE STANDARD equipment for a Rolls-Royce and the Jaguar XJ12, but we reckon it's the first time an Econocruise constant-cruise-speed device has ever been fitted to a Volkswagen Golf diesel.

A DRIVE staff member owns the car, and is now enjoying long trips without the usual aching ankle and pins-and-



CITROEN'S NEW GSA is now available in Britain — as a 1299cc five-door hatchback in two trims, Club and Pallas, and as an estate in Club form. The GSA range replaces the 1220cc GS saloons and estates. Its exterior is 3in longer than the old GS, with a lower, sleeker appearance, a new grille, and two rubber skirts under the front bumper that are claimed to reduce drag, improve handling and increase the air-cooled flat-four engine's air supply. Maximum power is claimed to be up from 59bhp to 65bhp — and at lower revs. For good measure, Citroen boasts 'significant improvements' in mpg — thanks, perhaps, to the new five-speed gearbox — and a 100mph max. The estate, however, gets only a four-speed box.

needle leg pains. Improved economy on long runs is also claimed... but, when you run a diesel, that's academic.

Rugby, Warwicks-based Econocruise decided to expand into the DIY market after concluding that competent

amateurs could fit the device just as easily as garages can. Fitting took our diesel owner a long afternoon, but we have seen an Econocruise man fit one to a Renault 18 in less than an hour.

Buyers will be most unlikely

Roads information

Numbers in parentheses refer to maps in the 1978-1979 AA *Members' Handbook*.

GT BRITAIN

Motorways open

Horndean-Havant A3(M), 5.5 miles (9); Bishop's Stortford-Stump Cross M11, 16 miles (19); Godstone-Sevenoaks M25, 9 miles (10).

Major roads open

Saint Clears bypass A40, 3.4 miles (14); Denbigh eastern bypass A525, 1 mile (23); Droitwich outer relief road A38, 1 mile (17); Dunmow bypass A120, 1.5 miles (19); Newtonmore and Kingussie bypass A9, 9.2 miles (56).

OVERSEAS

France Final section of Toulouse-Narbonne toll Autoroute A61, Villefranche-de-Lauragais to Carcassonne (56km), now open.

Germany — East The final 30km of the Berlin ring motorway, Marquardt (Potsdam) to Kremmen, now open.

Germany — West Final section of the Heilbronn-Nürnberg Autobahn A6, Kupferzell-Ansbach (58km), now open. Autobahn A7 now extended by 7.3 km from Langenau to Nersingen. Autobahn A8 extended by 12.5km from Zweibrücken towards Pirmasens. Widening of the Autobahn A9 between

Munich Nord and Autobahndreieck Hölledau now completed. A 15.3km section of the Autobahn A46, between Hückelhoven-Erkelenz bypass and Wanlo now open. The Giesen motorway bypass A48 now extended 8.5km from Giessen Nord to Reiskirchen.

Sweden Ängelholm. The 13.2km-long extension of motorway E6, Rebbelberga-Högaskop, now open.

Switzerland Motorway N6, Bern-Biel, extended 5km west from Schönbühl (junction with motorway N1) towards Lyss. Motorway N8, Interlaken bypass (2.8km), including Rügertunnel, now open.

to save enough fuel to pay for the device (£100), but we reckon that they'll be glad they got one. Its ability to hold a constant speed uphill and down dale is uncanny, and it's almost worth buying one to watch the accelerator pedal gliding up and down by itself.

Chinese meal

CHINA is becoming thoroughly westernised. While they are thinking about introducing parking meters there, the name that's been coined for parking meter apparently translates as 'steel coin-eating tiger'. We always thought so.

Stop that cab!

THE LONDON TAXI — as world famous as the capital's red double-deckers — is becoming unstoppable. Ever since an EEC regulation made servo-assisted front brakes obligatory for new cabs, 18 months ago, cabbies have been reporting one hair-raising incident after another. There's no telling how the vehicle will react while braking, they say: sometimes it veers left or right, and sometimes it won't pull up at all.

As it's estimated that 1000 cabs in London and 500 elsewhere in the UK now have the servo system, it's hardly reassuring for the paying public — and there's quite a row in the trade, too. Fleet owners and cabbies are demanding a design change, but a major distributor of the taxi insists that it is a driver problem.

Says Brian Glassman, director of Beejay Taxis, London's biggest independent fleet: 'Some of our brake linings have worn out after just 800 miles, and the frequency of brake adjustments and replacements cost us an extra £17,000 last year. In fact, we had to take on two more mechanics whose sole job is to keep the new brakes working.'

According to Glassman, the extra pressure exerted by the servo causes the brakes to



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Hollywood The Pioneers	69973	:

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Signed (I am over 18)

Date

(orders without signature cannot be accepted)

The AA confirms that, subject to changes in rates of VAT, prices quoted will be held until 1.9.80. Books also available through AA Service Centre. Offer available to UK addresses only.

from the AA...

DRIVE March-April 1980

overheat, resulting in their fading and snatching.

But a spokesman for the main London cab distributor, Mann and Overton, blames the cabbies for following vehicles too closely. 'Obviously, the harder and more often the pedal is pushed, the greater the risk of the brakes getting hot,' he says. 'The fact that many taxi operators are also swopping the original, hard brake linings for softer shoes to prevent squealing isn't helping matters, either.'

'We receive fewer complaints from one-man outfits than the fleets, whose vehicles are hired by cabbies on a weekly basis. From this, it would appear that owner-drivers drive more carefully,' says M and O's man.

One such is Anthony Pearce, 32, of Enfield, Middlesex, and, though he says that he has been using the brakes more gently in the last year, he still doesn't feel safe. 'I'm forever adjusting them,' he says, 'but recently I went straight over a roundabout because I couldn't stop. When they had cooled, only a short while later, the brakes were as right as rain.'

The best advice to passengers would seem to be: sit well back and hold on tight.

Drink and driving

CONCERNED at the 'very serious situation' created by the number of drink-and-drive accidents, deaths and injuries, the AA has concluded that the problem can be tackled only by allowing police to test drivers at officers' discretion.

In 1976, alcohol accounted for at least one in 10 of all deaths and injuries on the roads. Today, one in three drivers killed is above the legal limit and, at night, the figure is two out of three.

At present, the police can ask motorists to take an alcohol-level check only if there is reasonable cause to suspect that they have been drinking, or if they have committed a moving-traffic offence.

The AA makes it clear that it does not consider discretionary tests to be random checks. Indeed, it agrees with the Blennerhassett Committee that nothing could be more wasteful of limited police resources than stopping, for example, every 10th car.

Sealed with a hiss

TYRE COMPANIES are joining forces with the British Rubber Manufacturers Association to warn drivers of the dangers of using puncture-sealing liquids in tyres.

The sealants claim, in some cases, to effect a permanent

repair; but the British Standards Institution defines a permanent repair as a vulcanised repair made after the tyre has been removed from its rim and thoroughly examined for other internal damage (BS AU 159). Liquid sealants do not meet this requirement.

In fact, says the BRMA, the more efficiently a sealant does its job, the more dangerous it becomes, for it will camouflage the slow loss of air that is the normal warning of a tubeless tyre's puncture.

The BRMA also warns that sealants can cause wheels to corrode, which, in conjunction with unseen tyre damage, could add up to a serious tyre failure.

End of Endrust

IF YOU had your car rustproofed by the Endrust organisation, and haven't yet transferred your warranty to Protectol Ltd, do it immediately. The official deadline is 29 February.

Protectol took over all but 10 of the 100 Endrust outlets when the firm collapsed last year, and has been putting Endrust customers in the picture with mailshots and local newspaper advertising.

There is a nominal registration fee of £5, which will go into a special fund to help met claims if and when they arise, but Protectol has already met claims totalling £40,000 from its own coffers.

Rudge returns

AFTER AN absence of 40 years, the classic name of Rudge is to reappear on the tank of a new motorcycle. The machine will be racing this year, and will be followed by a road version some time in the future.

The men behind the project are the 50cc Road Racing Association's chief, Mike Cook, and former racing-team manager Ron Gardner. The



SHADES OF THE Porsche 924 can be seen in the styling of Renault's Fuego, which is due to be launched on the French market this March. Hopefully, it will arrive in Britain by October — but we'll have to wait until then to learn any more about this sleek new four-seater. Watch our spaces.

machine will follow in the Rudge tradition — a 500cc, single-cylinder four-stroke, with a four-valve head. The firm also plans to introduce a Rudge 50cc road-racer.

Variety showing

MODEST General Motors has quietly introduced its own variable-jet carburettor on all Opels and Vauxhalls with the 1979cc cam-in-head engine. It's also fitted on the new GM car for Europe — the Opel Kadett/Vauxhall Astra.

GM's carb had to meet the increasingly stringent demands of exhaust-emission regulations and the ever-pressing need to improve fuel consumption — both of which make smooth throttle response harder to achieve. We sampled it on the Vauxhall Cavalier 2000 Sports hatch, and were impressed by its improved economy compared to the last 1.9litre Vauxhall we tested — and it had none of the unpleasant side-effects of lean running.

It is a twin barrel design with a variable rate of fuel delivery, achieved by tapered needles acting on their respective jets. The automatic-choke unit behaved extremely well on our test car, keeping the engine

running reliably, without racing in the warm-up period.

Sumpin' new

IT DOESN'T seem right, somehow, but from the middle of next year many American cars are going to have their sumps made of plastic. It's cheaper than steel.

Saving ways

AN OFFER that is sure to save lives is on sale in London. The St John Ambulance Association is running a first-aid course specifically for motorists.

Six hours' tuition will be provided at the association's London headquarters for a fee of £12.50. Explains a spokesman: 'These courses provide essential first-aid knowledge and procedure for use at the scene of an accident. In this respect, our courses are compatible with the training demanded for licensing by EEC countries.'

Life-saving measures taught include the restoration of breathing, stopping bleeding, care of an unconscious casualty, and the treatment of shock, fractures and burns. Further details from 01-637 4105.

Parking fine

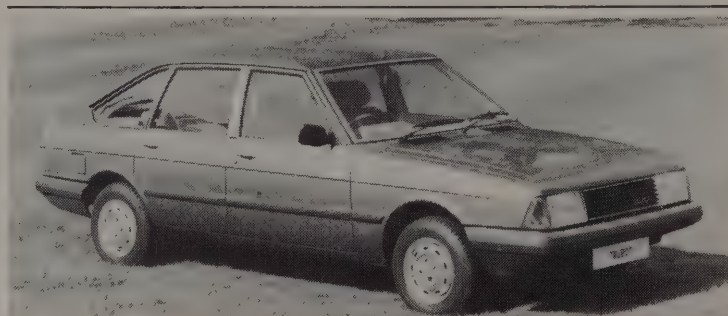
PARKING BETWEEN two stationary vehicles has at last become a compulsory test — for the Institute of Advanced Motorists.

Says IAM chief executive Bob Peters: 'When our advanced driving test started, in 1956, parking did not present the problem it does today. Manoeuvring into a confined space is now an essential element of driving, and I suspect that many otherwise experienced and competent motorists may never have quite mastered the art.'

But when will the IAM run a course on how to find a space?

Lacy's undone

ON PAGE 243 of the AA's guide *Hotels and Restaurants in Britain 1980*, the third line of the entry for Lacy's restaurant, London, should read 'lunch not served Saturday'.



TALBOT ENTERS the 1980s with a nose-end facelift for all Alpines, giving improved looks and aerodynamics and, it's claimed, better fuel consumption. A new model leads the range, too, the luxury Alpine 1600SX (above). Powered by an 87bhp 1.6litre engine, the car has automatic transmission, power steering, an electronic trip computer and constant-speed cruise control as standard features. To press home the up-market image, the SX also features a headlamp wash-wipe system, stereo radio/cassette player, digital clock, remotely adjusted door mirror, electrically operated front windows and central door locking. At £6614, the SX costs over £1000 more than the previous top of the range, the 1442cc GLS.

Can you read a car test?

How to choose a new car? Some people pore over car magazines; some do a crash-course in Sunday-supplement and television advertising; some believe everything they read in the government fuel-consumption figures; others simply offer their chequebooks to the first sweet-talking salesman who deftly fields their innocent questions. **DRIVE's** advice is: first, question yourself



HOW GOOD At-a-glance

DRIVE's verdict on the VW Golf GTi, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

FUEL ECONOMY

HANDLING/STEERING

SPORT/REFINEMENT

Running costs,

We calculate how much it will cost to tax, insure — allowing 50% no-claim discount — fuel, maintain and buy typical replacement parts for each car on test, based on a 2½-year period of ownership at 12,000 miles a year — new-car owners tend to trade-in every 2½ years or 30,000 miles. We even allow for the cost of AA membership in the calculation.

In the same way, we work out the likely loss of value over that same period, and take into account how much the new price is likely to rise — ie, how much it will cost you to replace that car in 2½ years time — as well as the interest you lose by having your purchase-price capital tied up in a car rather than invested in a building society. New-cost inflation plus capital interest plus loss of value equals total depreciation.

CLEVER CAR-BUYING begins with you: not just how much you can afford; not just your personal preference in colour; but what you need a car for. That's the secret of auto-contentment: finding the car that's good at the things that are important to you.

Our test reports are written with this in mind. Look at the section headings — you can select your own order of priorities — and satisfy yourself that the car of your dreams will fit your pocket, your preferences, even such mundane criteria as the size of your garage. Here is a list of attributes we cover under the various headings:

How it goes Performance, cornering, driving position and controls
How comfortable Ride and running refinement on the open road and in town, equipment, accommodation and seating, heating and ventilation

How strong Rust resistance and reliability prospects, ease of

cleaning, technical equipment and interior finish

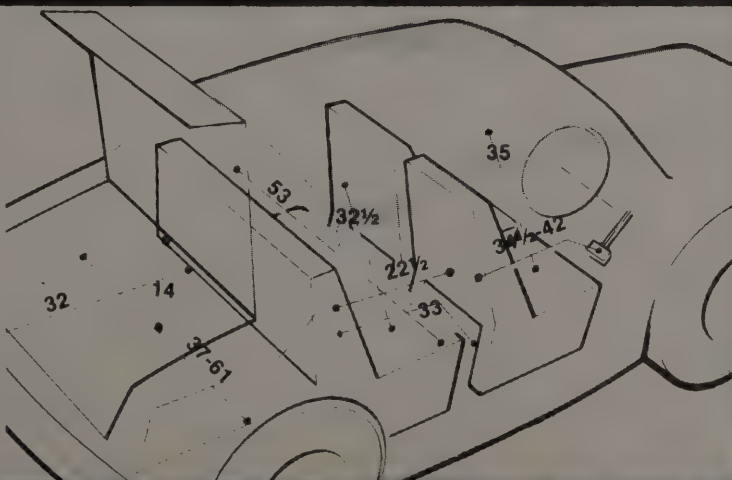
How safe How much the car's handling and brakes help accident avoidance (ie, primary safety) and, if the worst happens, how carefully it is designed to avoid injury

How much All aspects of purchase and running costs — for instance, depreciation trends, fuel economy, insurance and warranty details, parts prices and ease of maintenance.

In addition, there are the data tables: each car is measured, metered and researched by the AA's test and laboratory staff, and the facts presented in a way that aims to give an instant, in-depth picture of its performance, strengths and weaknesses. But there's no denying that a car is a complicated piece of machinery to put on paper. How, for example, do you say just *how* good its brakes are? Some explanatory comments may help bring the figures and charts alive...

Interior measurements

The average Briton needs 38-39in of **legroom** to sit comfortably at the wheel, and, if there is less than 38in — or 25in of **kneeroom** behind — he begins to feel cramped. We measure rear legroom by setting the front seats to give the driver his 39in and the front passenger 41in (no pedals, remember), then measure what is left behind each seat. The mean of the two sides is the figure we quote. Of course, if the driver can't get 39in, we give his seat as much room as we can — and a black mark, too! By the way, you'll need better than 33in of **headroom** as well — more if you keep your hat on.



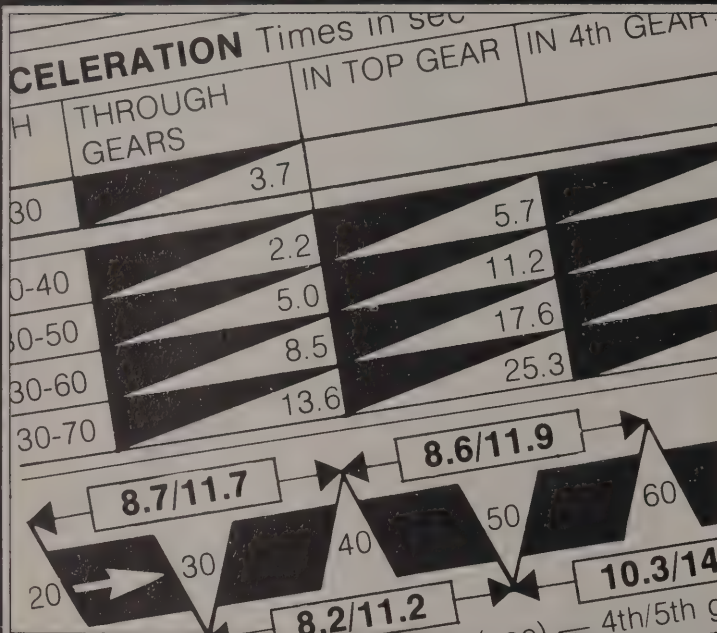
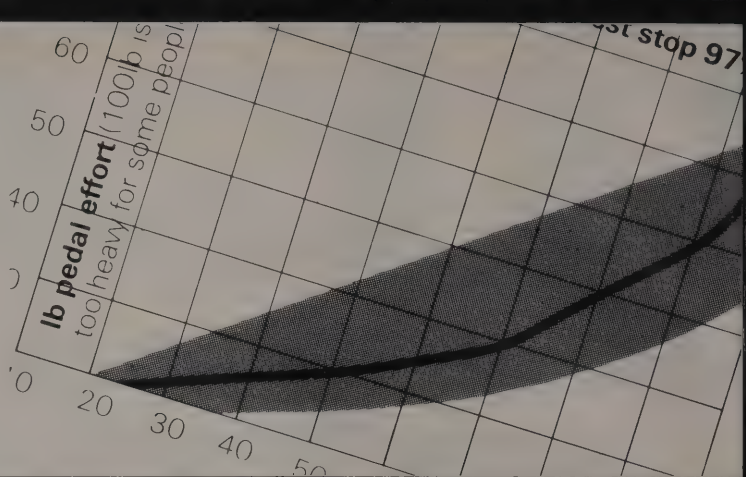
Brake performance

Like acceleration, stopping power should be even: the harder you press the brake pedal, the faster you stop. On our brake chart, the ideal car's braking performance would show up as a straight, 45° incline to reach 100% efficiency at a pedal pressure between 55lb and 80lb (the pressure that most drivers, male or female, use instinctively in an emergency) — ie, if you are travelling at 30mph and you hit the brake pedal with a pressure between 55lb and 80lb, you will stop in 30ft. When the incline begins to bend back on itself, the

car's wheels have begun to lock up — ie, the brakes are losing their stopping power, and pressing harder will not help.

It may occur rarely, but the smoother the curve on our chart, and the more closely it follows our shaded zone, the better the brake system. It's often overlooked that some modern ultralight brakes are as unsatisfactory as the impossibly heavy brakes of years past.

Also, the ideal car's brakes keep to the same pedal loads in all stages of our fade test, not getting heavier or lighter as they become hot or wet.



Performance

People always want to know 'what it'll do', so we measure the car's **top speed** on a triangular test track — one top speed on each of the three straights. The figure we quote is the mean of the three — not the best (with the wind behind) and not what the car's speedo is saying (we tow a specially calibrated fifth wheel).

More important to everyday drivers are the acceleration times. **Acceleration through the gears** records the car's fastest pull-away, using its full power and maximum-permitted engine revs in each gear — top speeds in each ratio are shown in the 'gear gate' plan adjacent. The 'maximum engine speed used' that is always quoted alongside is the manufacturer's recommendation... unless lower revs help.

We now record 0-30mph acceleration separately, because it

requires brutal wheelspin techniques on manual cars to which no sane car-owner would subject his own car. All other acceleration times are done in a way that causes no harm to the vehicle and makes both auto and manual comparisons valid.

Top-gear acceleration is quoted in two ways: in 20mph segments — the overtaking bursts you get simply by stamping on the accelerator — and as total times from 20mph in the same way as through-the-gears times. In the first case, the ideal car would give a smooth flow of power, each 20mph increase in speed taking the same time as the next. In practice, however, engines pull less well in top gear at low speed, as the times invariably reveal. The wider the disparity, the less flexible the car is in top gear, and the more gear changing will be needed when you want to hurry.

Safety checks

We commend or mark down each car on the basis of our own criteria. It isn't enough that seatbelts are effective — they should be comfortable enough to encourage you to wear them. Is a sideswipe likely to burst open a door? Or tear off a petrol-filler cap? These are things that could save your life in a crunch.

Fuel-consumption tests

The danger of driving different cars on different days is that the varying results won't really tell you much about them. So all our cars are driven over 750 miles of special test routes, often at dead of night, when artificial but precisely programmed 'traffic halts' can be built in. Precise fuel-flow meters count every millilitre of petrol used — even in fuel-injection systems — something which some magazines do not do, and three of the five consumption tests in our 'normal range' include a cold start, so that warm-up efficiency is taken into account.

We do all this because we

believe that no single figure we could quote will tell every would-be owner his or her car's likely mpg. We want you to look at the different kinds of operating conditions that we describe, and equate these with your sort of motoring.

We also assess a car's realistic range between forecourt fill-ups — and that's not just the tank capacity multiplied by the overall mpg. Realistically, an owner will fill up when the tank is low — not empty — and will pour in petrol until the forecourt pump cuts out automatically. With a strong nerve to risk running dry, and/or patience at the pumps, you could

force in a bit more. We ignore this unlikely possibility and quote the tank range for the amount of petrol easily accommodated.

Apart from all the tables, we go to considerable trouble to ensure that the comments and conclusions made in the text are factual and fair comment. For instance, every car is checked and tuned in our own workshop before tests commence — you'd be surprised how many arrive from the makers seriously out of tune. Every car is cleaned by our testers in the same way that owners do, to find out how nice or nasty a job it is. Whole families — wives, children, even domestic pets — play their part in every test, because experience has proved that this is the only way to ferret out the information that real-life buyers and passengers need to know. The aim is to tell you what the car is like to live with.

If you ask yourself the right questions, our reports should provide you with some straight answers. The car that not only pleases your eye but also fits your requirements and does well in those aspects that top your priority list should be the car for you.

SAFETY CHECKS

steering: energy absorbing? No
front seats: secure mounts? Yes
head restraint? Yes
belts: effective? Yes
convenient? Yes
seats: fitted? No

Consumption — normal range	star/97 octane min
short journey, suburban	
motorway — 70mph cruising	
rd driving, heavy traffic	
ed roads — brisk	
t rural	

Nice music—not much movement

DRIVE's testers were of one accord in 1977, and again last year: Honda's Accord was, and still is, the most desirable of Japanese saloons.

Now, encouraged by the tune of cash-registers ringing around the world, Honda has orchestrated a new arrangement of the Accord's engineering with a stylish, two-door coupé body.

The result is the Prelude — and a short performance it certainly is, being both shorter and lower than the already compact Accord. We liked its lean looks, but could we shoe-horn our testers into it?

How it goes

Under the Prelude's Ford Mustang-style bonnet sits the Accord's 1602cc transversely mounted, overhead-cam engine with the same, respectable 80bhp

Honda Prelude

Price £1950 On the road £2088

output. Drive is, as usual, to the front wheels, via, in our case, a five-speed gearbox — though Honda does offer a two-speed automatic box for another £270.

The Prelude wastes no time in starting, idles smoothly and reliably, and its delightfully progressive, click-stopped manual choke helps overcome morning hiccups during the short warm-up.

Its acceleration times through the gears can hardly be described as neck-jerking, but they are on the right side of average — and faster than the 1¼cwt-lighter Accord. The stopwatch doesn't say all about the Prelude's efficient and refined engine, however. It makes light work of high revs and, at the other end of the

tachometer, proves remarkably docile when ambling in top gear at low speeds. Top-gear urge, too, is good enough to obviate rowing the car along on the gear stick, and dropping to fourth can cut the 30-50mph time by 3sec to an impressive 8.2sec.

Honda was apologetic about our test car's awkward action in the dog-leg between fourth and fifth gears, and the stick certainly did require more deliberate handling than was necessary in our last Accord; but many an Austin Maxi owner would be delighted if his gear change was as positive and easy-going as this Prelude's. Less forgivable were the tendencies for first to baulk and reverse to engage with a mild grating

sound. The hydraulically operated clutch was light and a smooth worker, and had no difficulty pulling away on a 1-in-3 hill.

The Prelude belies its racy good looks with docile handling characteristics that could disappoint the enthusiast. Though good by Japanese standards, the rack-and-pinion steering doesn't seem as positive or as informative as the Accord's, though we were unable to discover the reason. Also, the body roll that starts on entering a fast corner is controlled by stabiliser bars, but these interfere with the Prelude's poise at times. We suspect that the revised rear suspension and the shorter wheelbase are responsible for this; but despite these disincentives, the Prelude can be cornered quickly, safely and confidently, too.

One Prelude problem that



some will find a pain in the neck is its meagre headroom. It may not sound much, but the loss of 1½in roof clearance compared to the Accord means that average-sized European drivers and passengers will find little room to spare. If you are long in the torso, the Prelude will be a non-starter for you. Honda has tried to compensate for this penalty of coupé styling by fixing the front seats as low as possible — and succeeded in producing other problems. High support is negligible, and the driver's feet are forced into such an awkward angle on the pedals that one of our testers hobbled for a day after a long stint at the wheel. None of our team thought much of the seats' back support either, and the low driver's cushion makes it difficult for short drivers to see where the bonnet starts and the boot ends — inconvenient for parking.

Minor controls work as sweetly as we have come to expect from the Japanese, with the important ones controlled by column stalks mounted either side of the nicely padded steering wheel. Instrumentation is novel — Honda calls it a 'centralised target meter'. It consists of a large speedometer, positioned directly in front of the driver, with a tachometer needle pivoted on the same axis but swinging through a smaller radius — strange at first, but quickly understood. A bank of clearly marked warning lamps is positioned in the centre of the tachometer, but its lights are too dim to register in daylight; their level should be governed, like the digital clock, by the headlamps — bright in normal use and reducing when the main lights go on. Fuel and coolant-temperature gauges are grouped on the outer edge of the fascia, and there are also maintenance indicators — warning lamps that change colour from green via yellow to red, according to mileage — to signal when it's time to change engine oil, oil filter and tyre positions. The snag for do-it-yourselfers is that they cannot be switched back to green again without a special key, and only Honda workshops have them. . . . Also integrated into the instrument pack is a neat, convenient and thief-proof radio. Unfortunately, it can't be removed before selling the car, and can't be replaced with a better-grade model.

How comfortable

Average-sized Britons will find little comfort in the back of this diminutive Oriental. Headroom, legroom and kneeroom are all so cramped that the Prelude's not to be recommended for four-up journeys longer than a few miles. No, we've not grown too arthritic to enjoy two-plus-two coupés like

the Prelude, but there are some such as the Ford Capri that cosset their owners rather better. One tester's young son didn't complain about sitting in the back — but he was frequently tripped-up by the front seatbelt's webbing as he got in or out.

Storage space is equally limited, particularly in the front, where there's only a small glovebox (not lockable) and a tiny tray forward of the gear lever. Large storage bins are built into the rear side panels, though. The boot, opened by key or a remote-control lever next to the driver's seat, has a high lip that obstructs the loading of heavy items, but as the car sits low on the road this hindrance can be lived with. Luggage space is reasonable, if not suited to tall objects, but the spare wheel's location in a well under the boot floor means that everything has to be unloaded in the event of a puncture.

Heating is controlled by two simple, clearly marked slides and a three-speed fan. Temperature changes can be made promptly — which is fortunate as the footwell outlets tend to deflect a lot of heat upwards, quickly making for a stuffy atmosphere. The fresh-air supply is inadequate in warm weather, unless one is prepared to tolerate the noisy fan blasting-away on its fastest setting.

We found that the best solution was to open the standard, electrically operated glass sunroof. As it slides back, a small deflector pops up to eliminate draughts into the interior, but it also causes buffeting at speed. If the sun's too

HOW GOOD

At-a-glance

DRIVE's verdict on the Honda Prelude taking into consideration its rivals, its price and what kind of car it's *meant* to be

Out of 10

PERFORMANCE

●●●●●●●●

FUEL ECONOMY

●●●●●●●●●●

HANDLING/STEERING

●●●●●●●●

COMFORT/REFINEMENT

●●●●●●●●

INTERIOR/BOOT SPACE

●●●●●

PASSENGER AIDS

●●

DRIVER AIDS

●●●●●●

ACCIDENT/INJURY SAFEGUARDS

●●●●●●●●

RUST RESISTANCE

●●●●●●

RELIABILITY/EASE OF REPAIR

●●●●●●●●●●

much, a sunshade can be pulled across the closed glass panel, though this reduces further the already limited front headroom.

What did impress everyone who drove or rode in our Prelude was its overall noise control. Unlike the Accord, the Prelude does not suffer from annoying, high-speed exhaust boom, and, provided the roof is shut, it wafts sedately and quietly along motorways and around town.

So forgiving is the engine, and so slick the controls, that the Prelude flatters the sloppiest driver's technique. The sense of well-being is reinforced by its soothing ride, which sets the Prelude apart from the average Japanese offering. It mutes both the sound and feel of most road defects that British motorists are likely to meet, and only undulating surfaces taken at speed set the clever suspension flouncing.

How safe

We had two major criticisms of the test car's brakes: they pulled to the left during their first applications after an overnight halt, and then emitted an irritating, intermittent high-pitched squeal. This apart, they performed more than adequately in every other respect. The servo assistance is sensibly proportioned, giving good progression up to an excellent best stop; there is no sign of fade when the brakes are made to work hard; and a soaking had no detrimental effect on stopping power.

The brakes' hydraulic lines are divided diagonally, with a dual proportioning valve that should guarantee good braking even in the event of a fluid leak. There's also a warning lamp to ensure that the driver gets the message. Though there are those who condemned as gimmicks this and other features, such as a telltale for stoplamp failure and warnings of unlatched doors or boot lid, we have nothing but praise for such safety features.

While most injury prevention features scored well in our chart, we gave the Prelude the thumbs-down for interior padding (insufficient at head level) and the seatbelts (webbing sits too high on the stomach).

Cornering stability is very reassuring in an accident-avoiding manoeuvre, and so sure-footed is the roadholding that we cannot imagine even the most foolhardy of drivers getting into awkward situations.

How strong

There is no doubt in our mind that the Prelude is a thoroughly well-engineered motor car. The meticulous finish and almost obsessive attention to detail is typically Honda, and the power

HONDA PRELUDE

Parts/repair (inc VAT)

clutch £50.45 (fitting 6.5hr)
exhaust £62.32 (0.75hr)
headlamp unit £11.79 (0.35hr)
front bumper £70.01 (0.5hr)
laminated windscreen £87.87 (4.75hr)

oil filter £2.45 (0.18hr)

major service 10,000 miles (4hr)

Insurance group 6

Warranty 12 months/unlimited mileage

Standing costs per year/12,000 miles

Loss of value £N/A
Capital interest £N/A
New-cost inflation £N/A
Total standing costs=£N/A

Running costs

Petrol (£1.20/gal) £400
Insurance (av) £220
Road tax, AA sub £72
Servicing/replacements £221
Total running costs=£913 (7.6p per mile)
Total running costs=£913 (7.6p per mile)
Total ownership £N/A

HOW IT COMPARES

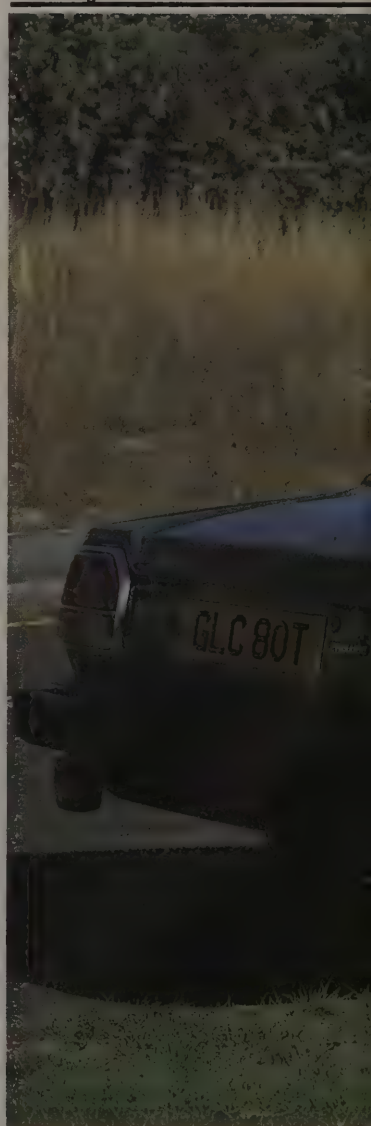
Honda Prelude

Alfa Romeo Alfesud Sprint Veloce

BMW 316

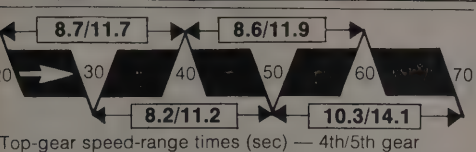
Ford Capri 2000S

Volkswagen Scirocco GLS-1600

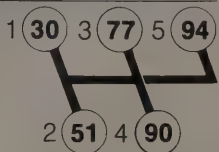


ACCELERATION Times in sec

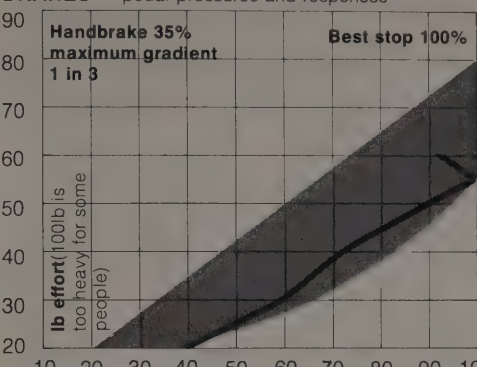
MPH	THROUGH GEARS	IN TOP GEAR	IN 4th GEAR
0-30	3.7		
30-40	2.2	5.7	4.2
30-50	5.0	11.2	8.2
30-60	8.5	17.6	12.8
30-70	13.6	25.3	18.5



TOP SPEEDS
max engine speed used 6000rpm;
max in 4th 5210rpm
max in top 4400rpm;
standing ¼ mile 18.6sec



BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)
Fade test pedal pressure needed for 75% stop (ideal car would show no variation)
43lb at start; **32lb** in constant use; **45lb** in severe use
Watersplash immediate recovery

FUEL 2-star/91 octane min

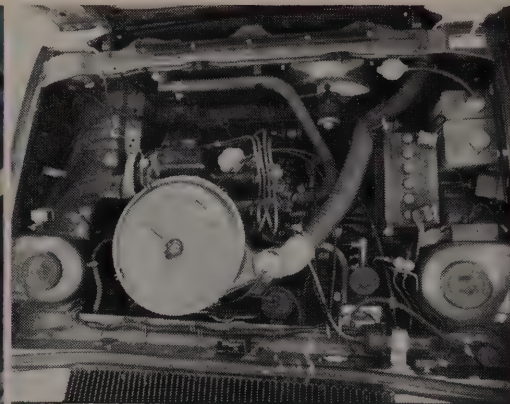
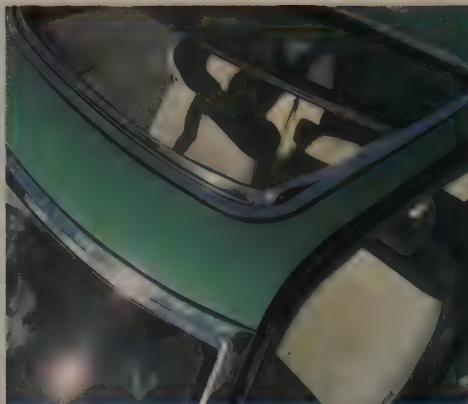
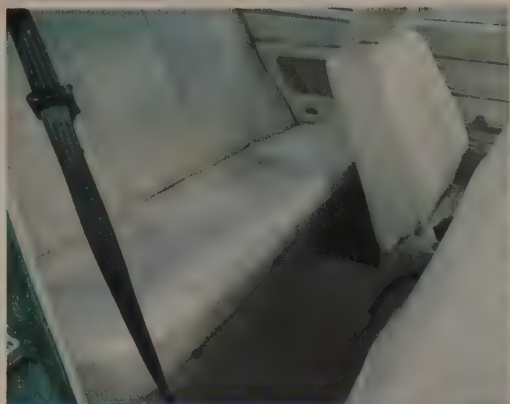
Consumption — normal range		
hard driving, heavy traffic	28½mpg	
short journey, suburban	30½mpg	
motorway — 70mph cruising	34½mpg	
mixed roads — brisk, 50mph cruising	37½mpg	
quiet rural — 40mph cruising	44mpg	
Typical mpg overall	36mpg	
Realistic tank range	360 miles/10gal	
Consumption at steady speeds		
	4th	5th
30mph	53½mpg	60mpg
56mph	38½mpg	43mpg
70mph	30½mpg	34½mpg
max mph	18mpg	19½mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	No
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	No	doors: crashproof?	Yes
convenient?	Yes	childproof?	Yes
rear belts: fitted?	No	petrol: spillproof?	Yes
		brakes: failsafe?	Yes
		load sensitive?	Yes

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ (FT)
5088	1602	36	94	17.3	25.3 (5th)	100/55	13' 5"	42	33	3¼/33¼
5450	1490	31½	101	13.5	25.2 (5th)	98/60	13' 2¼"	42¼	35½	3½/36¼
5311	1573	27½	101	13.6	24.0	100/55	14' 3½"	40¾	39¼	4/31¼
4310	1993	30¼	109	11.5	20.6	100/55	14' 4¼"	41	36¾	3¼/34½
5852	1588	33¾	104	11.1	19.7	92/50	12' 9"	41½	33	3¼/32¾





train has been well tried in the Accord.

Mechanical reliability is, of course, only as useful as the body's life, and Hondas of old gained a reputation for rusting into an early grave. Honda has taken some steps to ensure that its new fleet of cars does not go the same way — well, at least not as quickly — but much more must be done to convince **DRIVE**.

Apart from primer paint, the box sections are left untreated, and the bituminous compound that is generally well-applied to the floorpan is less satisfactory under the wheelarches. Redeeming features are the plastic shields that block-off mudtraps, and the zinc treatment of certain vulnerable sections.

Our car's metallic paintwork was almost impossible to fault, and the large, wrap-round bumpers and rubber nudge strip on the side panels should ensure it stays that way. Uncluttered lines makes the Prelude easy to clean outside, though we found the alloy wheels tricky, and the test model's ivory coloured interior showed every mark.

How much

Honda's Accord is one of the most frugal 1600cc cars available, and we were not disappointed by the sleeker Prelude. At 36mpg overall, the Prelude stands head-and-shoulders above all serious competitors we have tested to date, and returned 1mpg better than the Accord. Only when driving very hard on tortuous routes is

one likely to see less than 30mpg; otherwise the mid-to-high 30s is the norm, and even 40-plus is possible with a little restraint — all on cheap 2-star petrol, too. The tank's capacity is modest compared to some, but given such economy the Prelude's range per tankful is fair.

If you are the type who worries about the complexities of front-wheel-drive servicing, then forget it as far as the Prelude is concerned. All is within the scope of the competent home mechanic, though the handbook is little help. Spares are more costly than those for British cars, but much cheaper than spares prices for Citroens or for Volkswagens.

Servicing intervals are 10,000 miles for the major service and 5000 miles for the minor. Cur-

rently, UK Honda dealers — cars, not bikes — number 236, respectable for one of the smaller importers. Warranty terms are one year, unlimited mileage.

As can be seen in 'How it compares', the Prelude undercuts most of its European rivals by a worthwhile amount, and those that are cheaper are nowhere near as well-equipped. However, some buyers might find it difficult justifying the extra £800 over the three-door Accord for less room and versatility — despite all the Prelude's goodies. We sympathise, but that's the way it has always been with sports coupés.

Verdict

It's not so much a prelude as a variation on a well-known theme. Not content with just transposing

the Accord's good works into a concertina'd coupé, Honda has polished its new arrangement to produce one of the most refined two-plus-twos on the roads at this price.

Whether European traditional-coupé enthusiasts will welcome Honda's interpretation is another matter. The willing engine may partly compensate for the lack of raw power, but, like the handling characteristics, it's no adrenalin stirrer. Given its undemanding ways, child-sized rear seats and dainty driver's accommodation, this attractive package begins to make more sense as an up-market house-person's runabout for shopping and school runs.

Well, at £5000 for a well-equipped, quality small car, any self-respecting up-market house-person should have enough left over from the accounts to have the weekly groceries delivered . . .



ENGINE

Type and size front-mounted, transverse 4-in-line, water-cooled; 77mm bore x 86mm stroke = 1602cc; 5 main bearings; iron block/alloy head

Compression ratio 8.4:1

Valve gear overhead camshaft driven by cogged belt, actuating rockers

Fuel system one twin-venturi carburettor, fed by electric pump from 11gal tank with low level warning lamp

Max power (DIN-net) 80bhp at 5300rpm

Max torque (DIN-net) 93lb ft at 3500rpm

TRANSMISSION

Clutch diaphragm spring, single dry plate, hydraulically operated; pedal load/travel: 20lb/5¼in

Gearbox 5-speed (all synchromesh) and reverse; ratios: first 3.18:1, second 1.84:1, third 1.2:1, fourth 0.89:1, top 0.72:1, reverse 3:1

Final drive 4.38:1 to front wheels

Mph per 1000rpm 20.64 in top gear; 16.69 in fourth gear

CHASSIS

Suspension — front: independent MacPherson damper/struts with integral coil springs and anti-roll bar

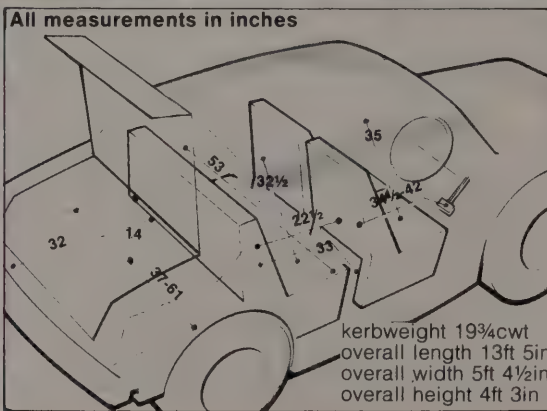
rear: independent MacPherson damper/struts with integral coil springs, trailing and transverse lower links, anti-roll bar

Dampers telescopic all round

Steering rack and pinion, 3¼ turns between full locks; turning circles average 33¼ft between kerbs, with 53¼ft in response to one turn of the wheel

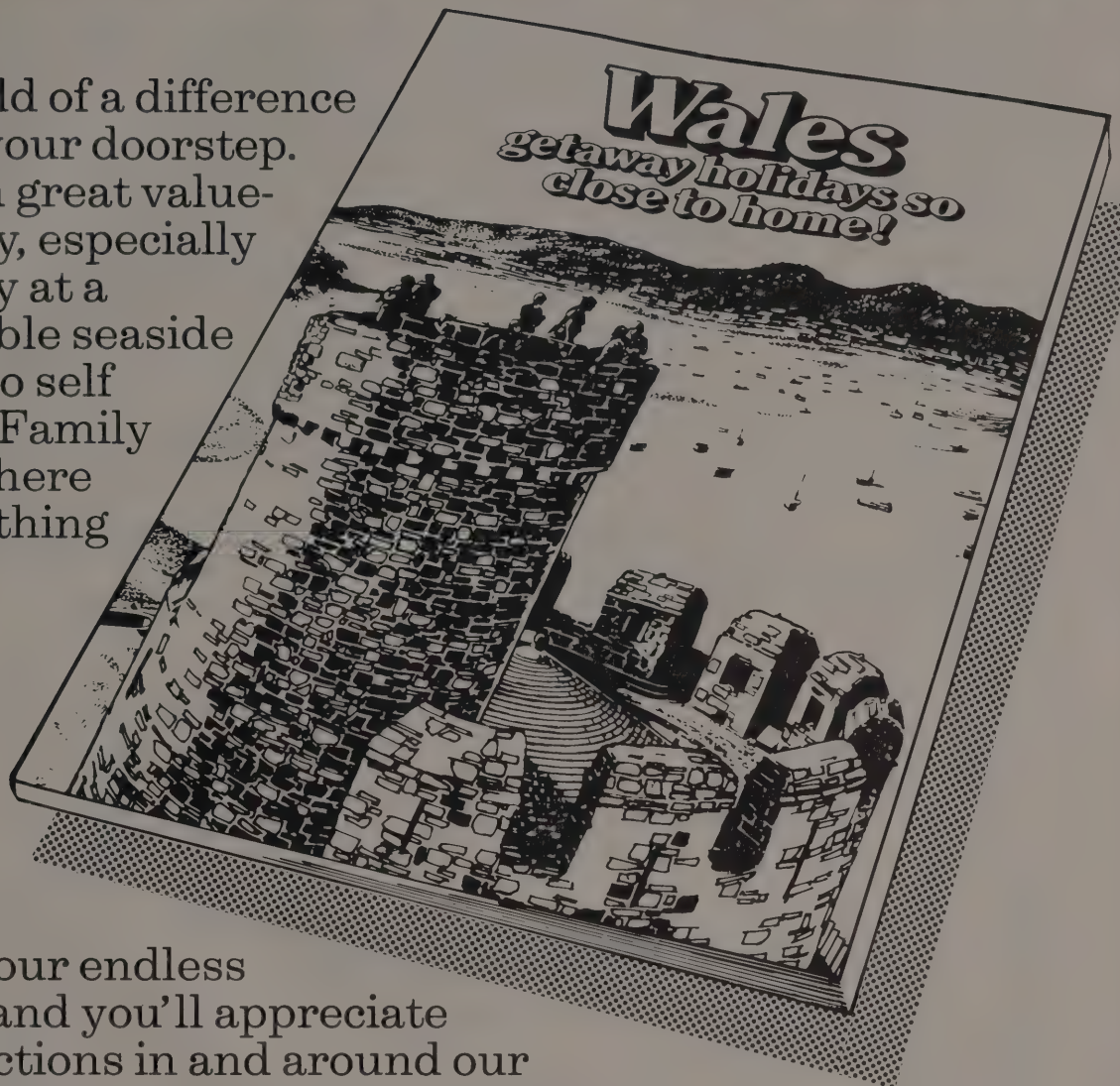
Wheels 5½J alloy rims with 175/70SR13 steel-braced radial-ply tyres (Dunlop SP4 on test car)

Brakes dual-line hydraulics; discs front, drums rear, with vacuum servo, line failure warning lamp, handbrake warning lamp



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FOR MORE THAN six years, DRIVE's unique and widely-respected Index of Motoring Costs has monitored the true cost of running a car. Not the cost of a car tester's three-day drive, projected to give a notional annual figure, but the *real* pounds and pence spent by *real* people running *real* cars over a full year. Now, as we journey into the 1980s, with all signs pointing to further increases in motoring overheads, the role of the Index, both as watchdog and indicator, becomes even more important.

Which is why we are now expanding this exclusive reader-service to reveal, in even finer detail, the actual financial

Pay as you go

This issue, the DRIVE Index of Motoring Costs stands at 230 points, as against the 100 set when the Index began in October 1973. This means that, for every £100 the average motorist spent in 1973, he now spends £230. And that's *after* making some considerable economies: according to the government's Retail Prices Index, the *same* goods that cost £100 in 1973 now cost £266.50.

A major reason for this car-driving 'economy', perhaps, is that in response to increasing petrol costs motorists have cut down on their mileage.

Certainly, petrol costs have risen faster than earnings. In October 1973, a gallon of 4-star was 37.5p, paid out of an average gross weekly wage of £40.90. In October 1979, 4-star cost £1.20

Here, in addition to logging drivers' month-by-month outgoings over the year ending 31 October 1979, we chart annual costs back to November 1975. We also show how vehicle year-of-registration, engine size and country of manufacture can affect what a motorist spends. And we have enlarged the list of individual makes and models — something that we'll continue to do as sample strengths permit.

And we've made the tables simpler, and added graphs into the bargain, so that you can see at a glance how figures are moving and how your money is spent.

The great strength of the DRIVE

Index is its basis in the real-life spending of thousands of motorists all over Britain. Each month, 1000 car drivers, chosen at random, are asked about their mileage, petrol bought and all relevant expenditure. Their answers are added to those gathered in the previous 11 months, thus ironing out seasonal differences, and the combined records of 12,000 motorists are fed into a computer to produce DRIVE's Index tables and reveal up-to-the-minute trends.

Three main areas of spending are highlighted throughout: fuel, servicing and repairs (including engine oil), and insurance. Road tax, motoring-organisation sub-

scriptions, accessories, parking fees and miscellaneous items are grouped together under 'All other costs'. Only depreciation is omitted.

Mileage is another important element in Index calculations: simply keeping a log of what's paid-out doesn't tell everything. It's only when outgoings are divided by mileage to obtain a pence-per-mile figure that a clearer picture emerges of what motoring actually costs. Thus, the Index accurately reflects the fact that newer and larger cars average more miles than older and smaller family cars (see Tables 2, 3 and 5).

Table 1 sets the scene, showing month-by-month general costs of

MONTH-BY-MONTH ANALYSIS (all cars)

MONTH-BY-MONTH ANALYSIS (all cars)	MONTHLY COSTS						ANNUAL COSTS	
	Petrol (£)	Servic- ing/ Repairs (£)	Insur- ance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per mile (pence)	Petrol Cost per mile (pence)
October 1979	34.19	14.25	5.01	7.39	60.85	687	8.86	4.98
September 1979	33.76	11.38	4.91	7.96	58.02	764	7.59	4.42
August 1979	35.64	11.31	4.92	8.62	60.49	839	7.21	4.25
July 1979	34.28	17.93	5.06	8.03	65.30	720	9.07	4.76
June 1979	31.02	15.70	4.96	9.60	61.28	746	8.21	4.16
May 1979	27.05	17.93	4.86	8.91	58.75	733	8.02	3.75
April 1979	25.80	20.96	4.80	9.03	60.63	771	7.86	3.35
March 1979	24.53	21.11	4.79	9.54	59.98	686	8.75	3.58
February 1979	22.85	10.83	4.72	8.77	47.17	644	7.33	3.55
January 1979	19.54	12.89	4.61	9.15	46.18	579	7.98	3.37
December 1978	23.12	15.84	4.60	8.17	51.73	649	7.97	3.56
November 1978	24.72	15.55	4.60	9.06	53.94	787	6.88	3.14

Nov 78 — Oct 79	336.50	185.68	57.84	104.28	684.31	8605	7.95	3.91
Nov 77 — Oct 78	282.07	156.29	51.48	98.50	588.35	9186	6.40	3.07
Nov 76 — Oct 77	297.24	150.57	42.25	92.31	582.36	8842	6.59	3.36
Nov 75 — Oct 76	280.50	115.24	40.07	74.19	510.21	9225	5.53	3.04

TOTAL COST OF MOTORING AND COST PER MILE

The graph displays two data series over a five-year period from 1976 to 1980. The vertical axis represents cost, with the solid line for 'TOTAL MOTORING COST (£)' ranging from £500 to £800, and the dashed line for 'TOTAL COST PER MILE (PENCE)' ranging from 5p to 8p. The horizontal axis shows the months from August 1976 to April 1980. Both metrics show a consistent upward trend, with the cost per mile increasing more sharply than the total motoring cost in the latter half of the period.

Year	Month	Total Motoring Cost (£)	Total Cost Per Mile (pence)
1976	AUG	500	5.2
1976	OCT	505	5.4
1976	DEC	510	5.6
1977	FEB	515	5.8
1977	APR	520	6.2
1977	JUNE	530	6.5
1977	AUG	540	6.8
1977	OCT	550	7.2
1977	DEC	555	6.8
1978	FEB	560	6.6
1978	APR	565	6.7
1978	JUNE	555	6.5
1978	AUG	570	6.4
1978	OCT	555	6.4
1978	DEC	580	6.5
1979	FEB	610	6.8
1979	APR	630	6.9
1979	JUNE	650	7.1
1979	AUG	680	7.5
1979	OCT	710	8.0
1979	DEC	740	8.5
1980	FEB	770	9.0
1980	APR	800	9.5



car is costing you

motoring in the year to 31 October 1979, and how those totals compare with the three previous years. In Table 2, you can relate the outgoings for your car against the average cost of running a car of the same age. Table 3 gives cost comparisons for cars grouped according to engine size; Table 4 shows spending by owners of British cars, against spending by owners of cars made elsewhere, and how manufacturers' complete model ranges compare; and Table 5 (over page) offers cost comparisons for particular models — popular cars on UK roads.

All costs except Table 1's are average monthly costs.

and gross weekly earnings were £98.80. Mr Average had therefore to labour 29min last October to afford a gallon of petrol that cost only 22min of his time in 1973.

So, by all means note that in November 1978 a motorist could expect a monthly petrol bill of £24.72. Note that, 12 months later, he might be pleased to find that this had risen 'only' to £34.19. But note, above all, that the same driver's monthly mileage had fallen from 787 to 687, while his petrol-cost-per-mile jumped from 3.14p to 4.98p.

In all, the average driver spent £684.31 to keep a car on the road in the year ending 31 October 1979 — nearly £100 more than in the previous 12 months.

So, despite a fall in average mileage, total costs have risen to a peak of 7.95p per mile.

TABLE 2

'Improves with age'

If your car is between five and eight years old, you're almost certainly spending more on servicing and repairs than anyone else, even allowing for the fact that you're almost sure to be driving fewer miles than most owners of newer models. It would appear

that it is in this stage of their lives that cars undergo major repairs.

Newer cars, on average, are more economical per mile, mainly because their servicing and repair costs aren't nearly as pricey — many are still under manufacturer's warranty.

Interestingly, cars registered

up to 1970-1971 are cheaper to run per mile than 1972-73 models — perhaps a reflection of the fact that older-car drivers tend to cover lower mileages, or perhaps it's simply that only the best of the five-to-eight-year olds survive the initial onslaught of major repairs...

YEAR OF REGISTRATION MONTHLY EXPENDITURE

	Petrol (£)	Service-ing/ Repairs (£)	Insur- ance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per mile (pence)	Petrol Cost per mile (pence)
1979	37.01	2.07	5.47	10.58	55.12	997	5.53	3.71
1978	37.97	7.89	5.44	9.89	61.10	1054	5.80	3.60
1977	32.35	9.98	5.40	9.71	57.43	881	6.52	3.67
1976	31.30	14.40	5.56	9.41	60.67	811	7.48	3.86
1974/5	28.62	21.25	5.28	8.65	63.80	705	9.04	4.06
1972/3	26.79	21.12	4.92	7.53	60.53	643	9.38	4.17
1970/1	23.92	14.19	4.28	8.30	50.69	572	8.86	4.18
Pre-1970	20.71	17.03	3.52	7.49	48.76	538	9.06	3.85

TABLE 3

The bigger they come...

With petrol prices still climbing, it's hardly surprising that used vehicles of more than 2000cc are attracting low bids at car auctions. In some cases, there is little difference in price between a secondhand big car and a small runabout. But speculators take note: unless you're prepared to

gamble that prices of large, up-market models will leap in the short-term, enabling you swiftly to resell at a tidy profit, running costs will increase with engine size.

Cars under 900cc, for instance, on average cost £38.03 a month, compared to £72.98 for models of 1701cc and over. In terms of cost-per-mile, however, the differences are far less clear: owners

of larger cars tend to travel significantly farther than small-car drivers, giving lower spending in pence per mile.

The real bargain for longer-distance drivers, according to DRIVE's research, is the mid-sized saloon, which can offer most of the motorway comforts of larger gas-guzzlers at a cost-per-mile that is beaten only by sub-900cc cars.

ENGINE SIZE (post-1969 cars only) MONTHLY EXPENDITURE

	Petrol (£)	Service-ing/ Repairs (£)	Insur- ance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per mile (pence)	Petrol Cost per mile (pence)
— 900cc	17.70	10.07	4.42	5.90	38.03	543	7.00	3.26
901 — 1100cc	21.21	13.28	4.55	8.35	47.40	593	7.99	3.57
1101 — 1300cc	26.27	13.17	4.74	8.19	52.37	702	7.46	3.74
1301 — 1500cc	27.28	14.69	4.89	8.58	55.44	704	7.88	3.88
1501 — 1700cc	36.56	13.41	5.19	9.70	64.87	892	7.27	4.10
1701cc+	39.73	17.03	6.34	9.79	72.89	924	7.89	4.30

TABLE 4

Pipped at the post

High costs of servicing and repairs saw to it that, in the year ending 31 October 1979, owners of British cars spent more than owners of foreign imports — in total, a shade over £60 a month (7.91p per mile) as against £53.11 (7.23p per mile).

Had it not been for the £6 extra that the average British-car owner handed to his garage, there is little doubt that home-produced models would have met foreign rivals on level terms, but British cars tend to be older and larger than foreign cars driven here.

Foreign cars as a whole are no cheaper on petrol per mile, though the Japanese do best with a cost-per-mile of 6.22p.

NATIONALITY AND MAKE (post 1969 cars) MONTHLY EXPENDITURE

	Petrol (£)	Service-ing/ Repairs (£)	Insur- ance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per mile (pence)	Petrol Cost per mile (pence)
BRITISH	29.88	16.44	4.92	8.85	60.09	760	7.91	3.93
Chrysler/Talbot	28.85	16.83	4.57	7.76	58.02	722	8.04	4.00
Ford	33.95	16.07	5.10	9.77	64.88	849	7.64	4.00
BL Cars	27.47	16.97	4.93	8.40	57.77	690	8.38	3.98
Vauxhall	28.73	16.12	4.70	9.06	58.61	795	7.37	3.61
FOREIGN	28.86	10.51	5.63	8.11	53.11	734	7.23	3.93
French	28.78	14.31	5.19	8.87	57.15	713	8.02	4.04
Italian	25.27	10.43	5.68	6.77	48.15	635	7.59	3.98
Japanese	27.39	6.70	5.91	7.20	47.20	759	6.22	3.61
W German	32.27	8.37	5.69	8.53	54.87	810	6.78	3.98
Fiat	24.11	9.58	5.34	6.83	45.87	632	7.26	3.81
Renault	28.18	10.97	5.16	7.31	51.62	685	7.53	4.11
Simca	25.35	12.99	4.51	6.82	49.68	513	9.69	4.95
VW	28.06	5.41	4.90	8.26	46.63	702	6.64	3.99
Volvo	38.59	10.49	7.50	9.46	66.04	820	8.05	4.71

TABLE 5

How much does your car cost?

Of the cars surveyed in the Index, Japan also takes the prize for the cheapest model per mile: Datsun's New Cherry, whose owners spent 5.08p every 1760yd. For good measure, they also had the lowest petrol cost-per-mile at 2.73p.

The best of British was a comparative bargain, taking engine-size into account: Vauxhall's Cavalier 1600, costing 5.60p per mile in total. BL Mini 850 drivers achieved the lowest average monthly bill of £34.63, but they did cover fewest miles — a 'mini' 473 per month.

Now check the record of the model that *you* run. If your average mileage is around the listed figure, the table will give you a most helpful idea of your monthly outgoings.

MODEL-BY-MODEL ANALYSIS (post-1969 cars) MONTHLY EXPENDITURE

	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per mile (pence)	Petrol Cost per mile (pence)
<i>Austin-Morris</i> Mini 850	15.96	7.53	4.28	6.85	34.63	473	7.33	3.38
Mini 1000	17.59	7.80	4.36	8.84	38.59	523	7.38	3.36
1100/1300	19.12	10.12	4.40	6.46	40.10	531	7.55	3.60
Allegro	27.50	12.63	4.78	7.46	52.37	757	6.92	3.63
Maxi	30.66	24.46	4.88	8.52	68.51	762	8.99	4.02
Marina 1300 Mk I	23.56	11.84	4.43	8.58	48.40	633	7.64	3.72
Marina 1300 Mk II	30.06	7.12	4.34	8.57	50.09	765	6.55	3.93
Marina 1800	32.01	35.82	5.09	9.79	82.71	822	10.06	3.89
Princess	47.43	14.78	5.53	9.54	77.27	1028	7.51	4.61
<i>Chrysler/Talbot</i> Avenger 1300	27.78	14.81	4.46	8.02	55.07	790	6.97	3.52
Hunter 1750	30.29	37.69	4.67	6.56	79.20	809	9.79	3.74
<i>Datsun</i> New Cherry	20.25	5.36	5.02	7.08	37.70	743	5.08	2.73
Sunny 1171	25.78	8.58	5.62	7.54	47.51	671	7.08	3.84
<i>Fiat</i> 128/124	23.15	4.05	5.36	6.87	39.43	660	5.98	3.51
500/127	17.57	8.98	4.55	5.69	36.77	522	7.04	3.37
<i>Ford</i> Escort 1100/Popular Mk 1	23.38	25.34	4.29	7.08	60.09	556	10.81	4.21
Escort 1100/Popular Mk 2	25.82	10.31	4.49	8.17	48.79	721	6.77	3.58
Escort 1300 Mk 1	25.62	24.63	4.55	7.45	62.26	524	11.87	4.89
Fiesta	24.62	3.19	4.74	11.44	43.99	748	5.88	3.29
Cortina 1300 Mk 3	29.10	9.59	4.32	6.25	49.25	804	6.12	3.62
Cortina 1600	38.51	16.27	4.84	12.38	72.00	1009	7.14	3.82
Cortina 2000	39.89	15.28	6.37	8.72	70.27	1084	6.48	3.68
Capri 1600 Mk 2	34.83	5.93	5.97	10.18	56.92	864	6.59	4.03
Granada/Consul	45.85	16.86	6.52	7.70	76.93	1025	7.51	4.48
<i>Renault</i> 4/5/6	22.43	16.22	4.74	6.62	50.00	629	7.95	3.56
12	28.33	6.01	5.01	6.42	45.77	704	6.50	4.02
15/16/17	36.33	6.99	5.51	7.68	56.51	709	7.97	5.12
<i>Rover</i> 2000/3500 (pre-1976)	43.01	21.56	6.31	6.68	77.58	793	9.78	5.42
<i>Triumph</i> Toledo/Dolomite 1300	23.18	15.43	4.52	7.75	50.88	686	7.41	3.38
1500/Dolomite 1500	29.55	16.02	4.93	12.60	63.10	652	9.69	4.54
2000/2.5PI	36.72	22.11	5.93	6.60	71.36	798	8.95	4.60
<i>Vauxhall</i> Viva 1256	22.57	17.39	4.39	7.08	51.44	691	7.45	3.27
Chevette 1256	26.95	4.94	4.50	11.93	48.32	774	6.25	3.48
Cavalier 1600	40.81	11.44	5.68	10.00	67.93	1214	5.60	3.36
VW Beetle	21.28	6.17	4.13	7.74	39.32	548	7.18	3.89
Golf/Polo	29.47	3.93	5.21	7.63	46.23	750	6.17	3.93

YOU CAN'T RELY ON YOUR CAR LIKE YOU CAN RELY ON THE AA

A breakdown can happen at the most unexpected time. So it's good to know that wherever you are you can rely on the AA for help 24 hours a day.

It's great to feel you belong.

AA

Respect for our elders

A generation ago, it was simple. You either bought a civilised, people-carrying saloon or a load-swallowing, functional estate. Now, the distinction is blurred by fastbacks, hatchbacks and notchbacks, and even sports saloons feature opening rear ends and folding seats.

The car that started this transformation in Gt Britain was the Austin Maxi, which proved that you could combine the virtues of a saloon and estate with the minimum of compromise. And this 1960s innovator has survived into the 1980s with few compromises. The top, twin-carb Maxi HLS still features five gears, five doors and a double-bed conversion. But is it only as up-to-date as the flying bedstead?

How it goes

The most-expensive and power-

Austin Morris Maxi 1750HLS

Price: £10,995 (incl. VAT)

ful of the Maxis, the HLS has a pair of SU carburettors that give a useful 19bhp power advantage over the ordinary 1750, and a more-modest improvement in torque, too. This enables the HLS's high top gear to pull a genuine 20mph per 1000rpm, and, on one's first drive, the Maxi reveals its lusty top-gear pull. Of course, acceleration benefits by dropping down a cog, but the HLS is willing to pull strongly in fifth, even from below 40mph.

Such willingness is, however, belied by the engine's coarse feel, and the Maxi's old problem of poor gear-shift quality is little improved. A detente does now prevent inadvertent changes from second to fifth gear; but the

lever's sticky movement around the gate, the wide variation in shift quality from Maxi to Maxi, and the heavy clutch all remain.

Twin carbs used to sour a motoring enthusiast's life, but our HLS always sang sweetly, giving acceleration times that the Marina 1.7 cannot match and that only the quickest of medium-sized saloons can beat (see 'How it compares').

The HLS's use of wider radial-ply tyres is a mixed blessing. They are decidedly grippy when braking hard or cornering fast, but make the steering feel heavier than an ordinary 1750's—unhelpful on a twisting route. Another important change made in 1979 was the swop from Hyd-

rolastic to Hydragas suspension—the Maxi was the last BL product to float on fluid. It has done nothing to impair the Maxi's impressive cornering ability, for, despite its ageing looks, the Maxi can still show trendier upstarts a thing or two through the bends, thanks to its unswerving directional stability and good feel from the front tyres through the steering wheel.

Yet prospective buyers wouldn't jump to this conclusion in the showroom, where the Maxi's minimal instrumentation fails to woo the driver. Two old-fashioned dials convey little information beyond the essential; illuminated rocker switches are still scattered in pairs around the veneered dashboard; warning lamps are even more randomly placed; and the only concession to 1980s ergonomics is a pair of



stalks for lighting and wash/wipe. Even these disappoint: there's no provision for an intermittent wipe or brief, lane-change indication, and our car's headlamp flasher felt imprecise. Further old failings are the blindspot left by the driver's wiper, feeble headlamp beams, and the impossibility of beam trimming without a screw-driver and partial dismantling.

How comfortable

The Maxi makes few concessions to driver comfort, either. The seat's range of adjustments is coarse, the rake lever gets tied-up with the seatbelt clasp, and 38½in of driver-legroom is ridiculously limited for a car with acres of space behind. However, if it's enough for you, the driving seat can offer good support, its upright position being less tiring than one that produces a semi-recumbent slouch.

Because of its initial unwieldiness, the HLS — like Maxis of old — improves on acquaintance. Though its longer-lasting, steel-braced radial-ply tyres jitter in response to low-speed bumps, the Hydragas suspension's level-headedness and absorbency is

better than ever. The Maxi's damping has been maximised, too, to the point where there's no tendency to bounce, and cornering roll is well-restrained. In all, we think it rides the road and handles through bumpy bends a lot better than a Ford Cortina or a Morris Marina.

Its boxy styling might be *passé*, but it is highly practical when it comes to loading people and packages. Rear entry is particularly easy for the less-agile, and the tall, inviting rear seat has hardly any centre tunnel and plenty of legroom. Lateral support isn't helped by the lack of a centre armrest and the new, smaller door-pull armrests, but the latter do now enable the seat to be folded forward without first opening the rear doors.

We found that the backrest latches still rattle infuriatingly but, otherwise, our test Maxi was a reformed rattler — it was the first we'd tried that lacked facia creaks, for example. While road rumble remains too high and wind noise too apparent at higher speeds, we were favourably impressed by its refinement at motorway-cruising pace. Com-

plaints were confined to the top-gear's whine at 50-60mph, and the brakes' squeaking when they were *not* in use — an old Maxi failing. And why hasn't the radiator fan's howl been silenced by bringing it around the corner, as in the Princess?

Of course, the Maxi's selling point is its spacious cargo area — extending, in its double-bed mode, through to the front parcels shelf. The big tailgate is blissfully easy to manipulate, thanks to twin gas struts, and the sill-less load aperture is a great help. Elderly canines, destined for the rear, approved of the carpetted platform, and the neat trim drew praise from passengers.

In this top-of-the-range model, the lack of a clock and tachometer is noticeable, and the heater's leak of cold air at foot level while the airflow is set to the screen makes you turn up the heat when it's not really needed. The facia vents are more efficient — fortunate, as they are not boosted by the quiet fan.

Around town, the Maxi's cumbersome controls are offset by the ease with which this roomy car can be placed. Vision is excellent all round, and the tailgate's need for a wash/wiper is not as great as some more-modern hatchbacks' rear-ends.

How strong

Like the old Austin 1800 — whose doors it inherited — the Maxi is sturdily built, with wings and body panels thicker than is customary nowadays. Consequently, its torsional stiffness (ability to withstand flexing) is unusually good.

Despite some sill corrosion problems, elderly secondhand Maxis have resisted structural corrosion well. The paint does chip and blister fairly readily, but there's no doubt that the car's square profile protects its lower flanks from the stone chips that pepper the curved-under contours of more-modern designs. Less laudable are all-too-obvious corrosion points such as the paint next to window trims, and the chrome plating doesn't seem so good on more-recent Maxis.

The underside is coated with a flexible sealant that is conscientiously applied. Indeed, in some places, too much is used — which can allow water in through the resulting cracks. On the whole, though, Maxis survive well even in careless use, and proud owners can make the bodywork last a long time.

Sadly, transmission problems have dogged the Maxi for years, and our car was halted by an oil leak that ruined the clutch in mid-test. Our testers are also worried by the wildly varying engine-oil consumptions recorded for this

AUSTIN MORRIS MAXI 1750HLS

Parts/repairs (inc VAT)

clutch £31.88 (fitting 1.6hr)
exhaust £55.89 (0.8hr)
headlamp unit £7.02 (0.6hr)
front bumper £29.33 (0.6hr)
laminated windscreen £43.13 (1.1hr)

oil filter and points £3.30 (0.7hr)
major service 6000 miles (3½hr)

Insurance group 4

Warranty 12 months; AA membership

Standing costs per year/12,000 miles

Loss of value £360
Capital interest £247
New-cost inflation £562
Total standing costs=£1169 (9.74p per mile)

Running costs

Petrol (£1.20p gal) £472
Insurance (av) £153
Road tax, AA sub £72
Servicing/replacements £165
Total running costs=£862 (7.18p per mile)
Total ownership £2031 (16.93p per mile)

HOW IT COMPARES

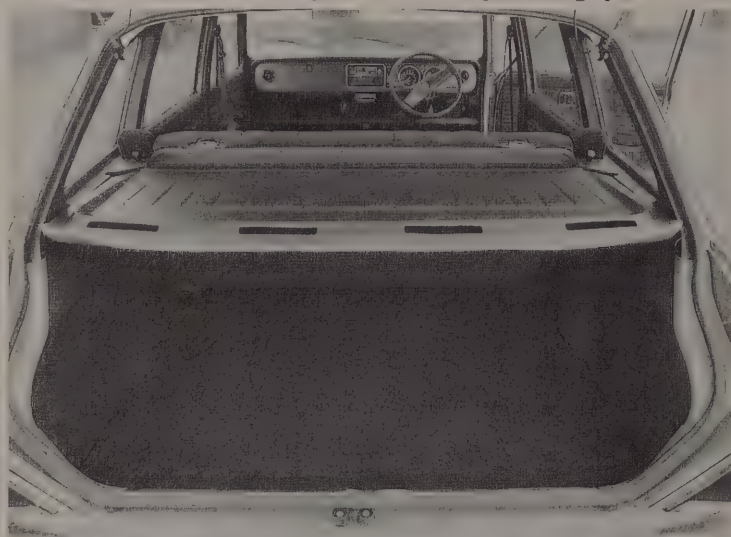
Austin Morris Maxi 1750HLS

Austin Morris Marina 1700HL

Ford Cortina 1600GL

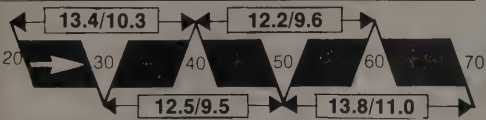
VW Passat GLS 1600

Talbot Alpine GL



ACCELERATION Times in sec

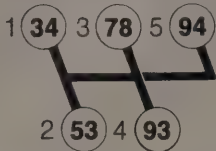
MPH	THROUGH GEARS	IN TOP GEAR	IN 4th GEAR
0-30	3.9		
30-40	2.5	6.6	4.9
30-50	5.1	12.5	9.5
30-60	9.2	18.8	14.5
30-70	13.6	26.3	20.5



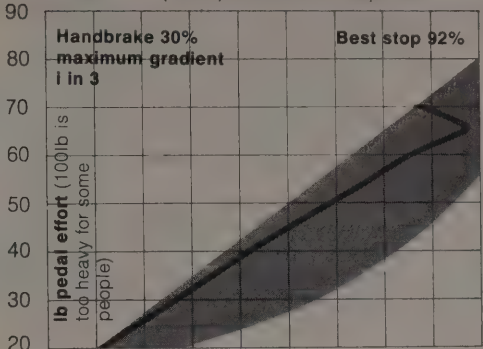
Top-gear speed-range times (sec) — 4th/5th gear

TOP SPEEDS

max engine speed
used 6000rpm;
max in top 4700rpm;
standing ¼ mile
19.1sec



BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop
(ideal car would show no variation)
52lb at start; 48lb in constant use; 55lb in severe use
Watersplash 58lb at first, 2 stops to recover

FUEL 4-star/97 octane min

Consumption — normal range	
hard driving, heavy traffic	23mpg
short journey, suburban	25mpg
motorway — 70mph cruising	28mpg
mixed roads — brisk, 50mph cruising	32mpg
quiet rural — 40mph cruising	35mpg
Typical mpg overall	30½mpg
Realistic tank range	285 miles/9½gal
Consumption at steady speeds	
	5th 4th
30mph	46mpg 42mpg
56mph	35mpg 33mpg
70mph	28mpg 26mpg
max mph	15mpg 15mpg

SAFETY CHECKS

steering: energy absorbing?	No	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	No
head restraint?	No	w/screen: laminated?	Yes
front belts: effective?	Yes	doors: crashproof?	No
convenient?	Yes	childproof?	Yes
rear belts: fitted?	No	petrol: spillproof?	No
		brakes: failsafe?	Yes
		load sensitive?	No

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
4921	1748	30¼	94	13.6	20.5 (4th)	92/65	33' 2¼"	38½	41¼	4¼/34
4651	1700	29½	94	14.8	23.6	94/70	14' 0½"	38¼	39	3¾/33½
4713	1593	33½	91	17.9	26.1	97/35	14' 3"	41	39	3¾/34
5621	1588	35½	100	12.5	22.8	100/60	14' 1"	39½	37	4/31¼
4860	1442	32	97	15.4	25.8	100/52	13' 11"	40¾	40	4/34½

(4th)=4th gear



engine: ours drank a pint per 500 miles after its leak was cured.

How safe

Despite their annoying noises, the test car's brakes proved very efficient, and the emergency stop seems better on the fatter tyres. Fade is revealed by frequent high-speed stops, but the system recovers very quickly. Some Maxis are prone to brake judder, so we were pleased that our car was free of the shakes.

The elderly Maxi is up-to-date in its fail-safe roadholding. It's one of those cars that only the foolhardy could lose on corners, being progressive and predictable in the way it runs steadily wider as cornering speed increases. When the accelerator is released, the car merely toes the line.

Safety padding falls short of ideal. There's none in the roof, for example, and the fascia is not the safe moulding seen in some modern cars. The seatbelts fit and work well, though, and the HLS is the only Maxi to boast a laminated screen. Outside, the fuel tank is rather vulnerable to a rear crash, and the door locks could be operated by certain types of impact. Still, it is a strong box.

How much

For a 1750cc family saloon, 30mpg overall is unspectacular; some 2litre executive motors manage almost as well. However, this is an improvement over previous Maxi 1750s that we have sampled — and they didn't go as fast, either. The larger tank capacity is appreciated on long

HOW GOOD

At-a-glance

DRIVE's verdict on the Austin Morris Maxi 1750HLS, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●●●

FUEL ECONOMY

●●●●●●●●

HANDLING/STEERING

●●●●●●●●

COMFORT/REFINEMENT

●●●●●●●●

INTERIOR/BOOT SPACE

●●●●●●●●●●

PASSENGER AIDS

●●●●●●

DRIVER AIDS

●●●●

ACCIDENT/INJURY SAFEGUARDS

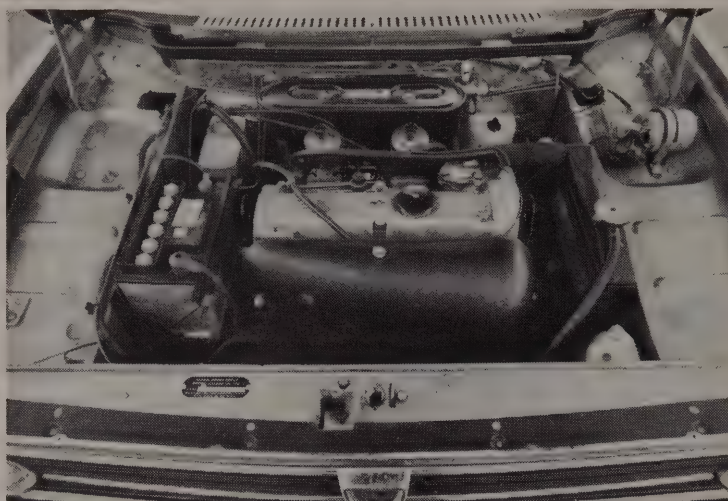
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RUST RESISTANCE

●●●●●●●●

RELIABILITY/EASE OF REPAIR

●●●●



runs, and it's easy to brim it.

Underbonnet access is acceptable, once the rain-splash bib is unfastened, and most routine DIY jobs are feasible, but the twin SU carbs are best left to experts. The handbook is helpful and parts prices are reasonable compared with some Continental rivals'. Servicing, due every 6000 miles, is more demanding than others' nowadays, but overall running costs are competitive.

We base our depreciation fig-

ures on a Maxi HL over the last 2½ years, and, though it is not too steep, the Cortina does better, and the Marina is preferred by cautious secondhand buyers.

Puncture sufferers will appreciate the spare's location in a cradle that can be released without disturbing the luggage. Routine valeting is easy, thanks to the amenable carpet fabric that extends to the cargo area and a sensible exterior shape that stays cleaner than most. The wheels



have hubcaps (remember them?) instead of fashionable wheelnuts to negotiate with a small brush.

Verdict

Austin Morris's struggle with some outmoded models is typified by the Maxi. So sturdy a car deserves a better reputation after all this time. One can overlook its 1960s styling, but how many 1980s drivers will forgive it its clumsy controls, coarse low-speed pulling and limited equipment?

Those who do will discover the brilliance of the basic concept has not been totally eclipsed. The more you Maxi, as a driver or passenger, the more you appreciate its virtues of roominess, stable handling and level ride, with the HLS version adding some performance without spoiling fuel economy. As such, the sturdy Maxi HLS should satisfy those who prefer working their car to worshipping it.

ENGINE

Type and size front-mounted, transverse 4-in-line, water-cooled; 76.2mm bore×95.8mm stroke=1748cc; 5 main bearings; iron block/alloy head

Compression ratio 9.5:1

Valve gear overhead camshaft with bucket tappets (shim adjustment) chain driven chain

Fuel system two SU HS6 variable-jet carburettors, fed by mechanical pump from 10½gal tank — no reserve

Max power (DIN-net) 91bhp at 5250rpm

Max torque (DIN-net) 104lb ft at 3400rpm

TRANSMISSION

Clutch 7¼in diaphragm spring, single dry plate, hydraulically operated; pedal load/travel: 32lb/5½in

Gearbox 5-speed (all synchromesh) and reverse; ratios: first 3.20:1, second 2:1, third 1.37:1, fourth 1:1, top 0.87:1, reverse 3.47:1

Final drive helical spur gears, 3.65:1 to front wheels

Mph per 1000rpm 19.9mph in top gear; 17.3mph in fourth gear

CHASSIS

Suspension — front: independent transverse links, Hydragas displacers with front-rear interconnection

rear: independent trailing arms, Hydragas displacers

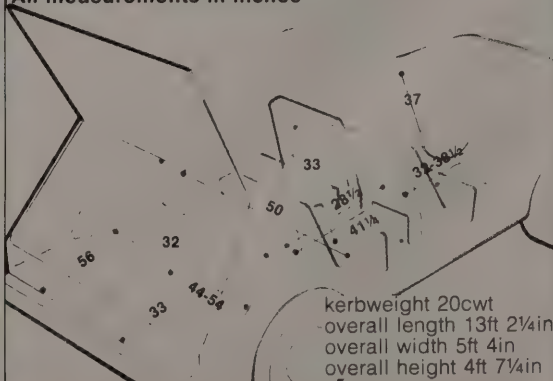
Dampers inherent in system

Steering rack and pinion, 4¼ turns between full locks; turning circles average 34¼ft between kerbs, with 71ft in response to one turn of the wheel

Wheels 4½C steel with 165SR13 radial-ply tyres (Dunlop SP4 on test car)

Brakes discs front, manually adjustable drums rear, with vacuum servo, line failure warning lamp

All measurements in inches





MY KIND OF PLACE

Past caring

ANYONE WHO takes a serious interest in food cannot fail to notice that there is something of a revival in traditional fare. However, the enthusiasm for national dishes seldom extends to regional and local offerings. Sad, but true.

How do restaurants deal with British food? Far too many try to create mock 18th- and 19th-century extravaganzas, with one eye on their copies of Eliza Acton and John Farley and the other on the size of their customers' wallets. Even worse, dishes may be inventions — the chef's *idea* of what food of the past was like.

Most embarrassing of all are dishes like the one I saw advertised by a restaurant in Carlisle — a concoction called Cumbrian Kidney Kebab, and described as a mixture of kidneys, water chestnuts, bacon and tomatoes, grilled on skewers and served with rice and barbecue sauce. Nothing about this bizarre dish suggested anything remotely to do with the Lake District, apart from the tenuous possibility that the kidneys had come from local Herdwick sheep.

Why give it the 'Cumbrian' tag? The answer is simple: in an area where tourists come looking for everything 'traditional' and 'local', it is almost compulsory for restaurants to oblige. And it is a telling comment on the lack of respect and understanding that many restaurateurs have for food.

This indifference is doubly galling because there is an abundance of local materials in

every part of Britain. Consider, for example, the shoreline plant known as marsh samphire. It grows in quantity on the salt marshes of East Anglia, and is a delicious, free and unusual vegetable. Yet restaurants are only now beginning to include it occasionally on their menus. Why has it taken so long for them to realise that much of the real fibre of country-cooking derives from items such as samphire that, literally, have their roots in the landscape?

But the news isn't all bad. There are more than a handful of restaurants that can handle regional food, and handle it convincingly. **The Bell Inn** at Ramsbury, in Wiltshire, is a good example. If you want to get a taste for our native foods, this is the place to go, for it specialises in dishes from all parts of the country, as well as featuring a number of new regional dishes such as Kidneys Urchfont, which includes the mustard developed in the Wiltshire village of Urchfont.

Better still is **Rothay Manor**, in Ambleside, on the shores of Lake Windermere. It is famous for its authentic Georgian food, wonderful breakfasts and regional dishes, the most spectacular being potted char.

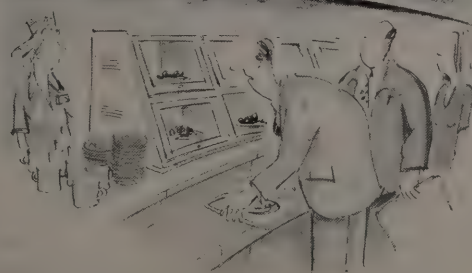
The char is a member of the salmon family, and is found in quite a number of deep inland lakes, especially Windermere itself. Local fishermen call at the kitchen door of the Manor with their catch, and it is transformed into a delicacy that has been popular in the Lake District since the 18th century.

There is, however, one major problem. If you want to taste regional food, how do you know where to go? Guidebooks aren't a great help; and the 'Taste of England' scheme, introduced by the English Tourist Board, is too general and far from critical.

Restaurateurs surely could try to reflect more enthusiastically the food that is around them. Yarmouth bloaters, Cromer crabs, Bradenham hams, Stargazey and bilberry pies are not relics, foods with only a past. They are there to be eaten!

DAVID MABEY

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'It's strange how the worst motorway accidents always occur in the kitchens.'

DRIVE March-April 1980

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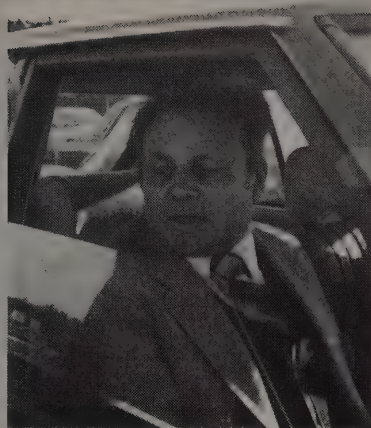
Regulars Only

IS THIS the sign of the times? In the winter of 1978-1979, garage signs saying Quad Stamps! and 3p Off! came down, and up went notices saying Regulars Only and Account Customers Only. They came out again — briefly — last winter, and you can bet that we haven't seen the last of them. Is it fair? Is it practical? During the last tanker-drivers' strike, DRIVE asked motorists for their views.

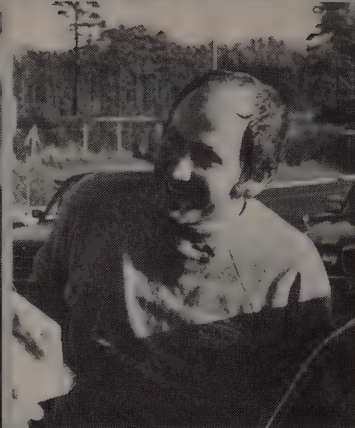
'I suppose I sympathise with the garages that do it,' said Peter Frisby, a commercial traveller from Horsham, W Sussex, 'but it means that people like me have to spend their days looking for petrol instead of working. I have to have petrol to do my job, and I can't afford to waste time hunting for it. I can be in any one area only four or five times a year, and I always need 12gal.'



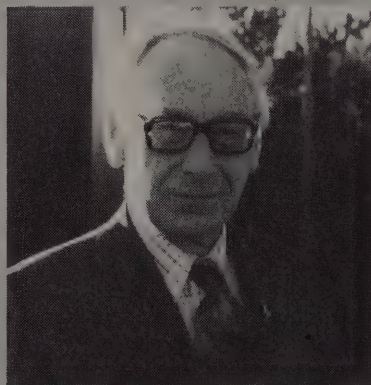
'It's a bit tough if you're a long way from your patch,' said John Goodwin, an electrical engineer from Cambridge. 'But I suppose I'd do it myself, if I were a garage owner. It's a natural, commercial decision. In business, you have a duty to your regular customers — even though it's difficult for me, travelling the country on business. I was in Lincolnshire a while back, and from the A1 to the coast there must have been 20 Regulars Only signs. Luckily, I wasn't desperate.'



▲ 'I can understand why garage proprietors do it,' said Derek Goddard, a Salisbury man with the exotic profession of mercenary soldier. 'I don't blame them for keeping their regulars sweet. I'm used to treatment like this in this country.'



▲ 'I haven't seen any Regulars Only signs,' said David Henry. Not surprisingly, really; he'd just touched down at Heathrow Airport from Australia, and set off in a hired Ford Escort. 'Is there a petrol shortage in this country? Oh, (bleep)!'



▲ 'I can't say I blame garage owners that much,' said company director Bruce Gray, from Wincanton, filling up the 20gal tank of his Daimler. 'Luckily, this car takes a lot of petrol, so I have a good range between fill-ups.'



▲ 'Shortages don't affect me,' said Linda Radford, a 28-year-old secretary from Basingstoke. 'I travel between Swindon and Basingstoke, and my company has an account in both places. I was happy to see the Account Customers Only sign — it meant that I could get petrol.'

Letters

Views to air? Tell DRIVE about your motoring and what it means to you. You can send letters for publication — unstamped — via DRIVE Directory, FREE-POST, AA, Basingstoke, Hampshire RG21 2EA

Correspondent Mr J Bissett, of Pilgrims Hatch, Brentwood, Essex, certainly started something when he suggested that we should all back home products (November-December). We asked for your views...

Long-running shoes

Mr Bissett is right about our tendency to be our own worst critics and run down BL cars at the drop of a hat. However, I

have driven BL cars since 1959 and, though they have had faults (what car doesn't?), they have proved very reliable.

My present Morris Marina 1.8SDL is five years old, has covered 48,000 miles (8000 of them with a caravan in tow), and has been totally reliable. In this time I have had only the shock absorbers replaced — I'm still running on the original battery and brake shoes.

I had a Kenlowe fan fitted when I bought it, and I regularly get 33-35mpg on my daily 20-mile journey to work. P C Jinks Swindon, Wiltshire

BL good

Like Mr Bissett, I praise the reliability of BL cars. I have owned two Austin 1100s, an Austin Allegro 1300, an Allegro 1500 Super and, currently, an Allegro 1500LE, and not one has had a major fault.

My work colleagues own an

assortment of vehicles, mainly foreign, and it appears that most foreign cars are supplied with one extra not fitted by BL — rose-coloured spectacles. My friends do not acknowledge the faults that their cars frequently suffer, nor the high cost of parts and servicing.

R D P Langston High Halston Rochester, Kent

Morris dances on

I have owned 19 cars and have driven, or been driven, more than a million miles in them. The models have included two Humber Snipes, two Jensens, four Aston Martins, two Rolls-Royce Shadows... and a Morris Marina 1300, which was bought new in 1974 as a second car.

Maintained at the manufacturer's recommended intervals by the garage that supplied it, the Marina has, in five years, chalked-up 36,700 miles. Total

petrol consumed has been 1107 gallons, which works out to 33mpg overall. Eight services and the replacement oil, plugs, filters, tyres, etc have come to £266 — 0.72p per mile.

BL does make some good vehicles. The Marina has never let me down, and has proved the most reliable of my 19 cars. W E Fea Worfield Nr Bridgnorth, Salop

Allegro crescendo

I am the proud owner of a 1974 Austin Allegro 1300 with more than 50,000 miles on the clock. The car has been extremely reliable and costs me very little to run — a fact reinforced by DRIVE's Index.

With such excellent home-produced cars as the Allegro on the market, I am puzzled why people bother with foreign cars. Maybe they are brainwashed by the rubbish they read in some motoring magazines that are

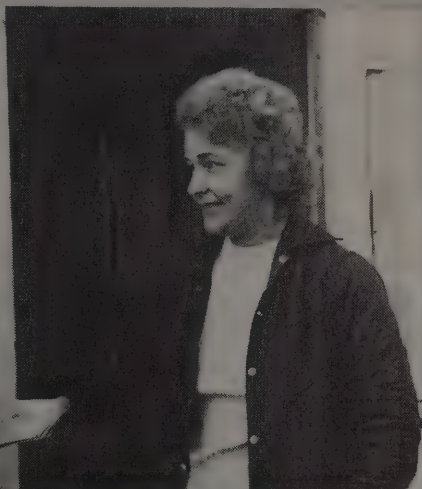


◀ 'I don't use a lot of petrol,' said pensioner Mrs Winifred Hughes, 'but I am a regular at this garage so far as I'm concerned. I've never been turned away, and I never go anywhere else.'



▲ 'Yes, we have our Regulars Only sign up again,' said Hook, Hants, garage-owner Mrs Mary Lapham, 'but it has never created any antagonism. We rarely turn anyone away, even though we are short at the moment — non-regulars can usually have £2-3-

Nevertheless, I don't think that anyone else should be turned away. Garages should serve everyone. When the petrol's gone, it's gone. That would be the fairest way.'

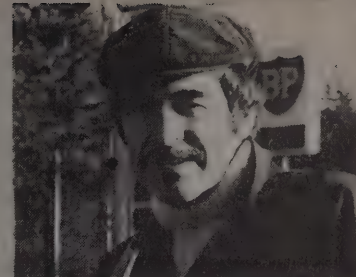


worth. People call in and tell me that they've been driving for miles on the red, and I always try to help. Mind you, I did have one woman call in yesterday who wanted her car filled up, and it took 0.7gal. She said it wouldn't take much — but really!

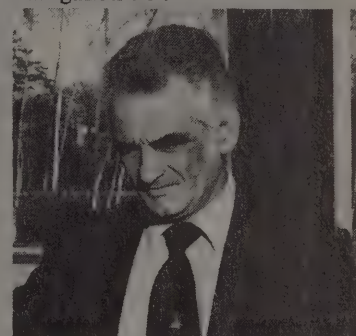


▲ 'I've seen plenty of garages in my area operating the 4gal limit,' said Tony Suter, 20, a van driver from Mere, Wilts. 'But I rarely have problems: I use enough petrol to be a regular in most areas. I sympathise with the garages, in a way: they want to keep faith with their regular customers.'

'Who is a regular? How do you tell?' asked van driver Ronald Wilson, 35, from Stratford, E London. 'Garages have generally been willing to sell me petrol, even when they had the signs up. If your face fits, you'll be OK. The signs are for foreigners coming over. Nearly every garage in Tunbridge Wells was Regulars Only, but I always got some.'



▲ 'Customers must get very annoyed,' said Dave Full, a 41-year-old engineer, working temporarily as a pump attendant at a Fleet, Hants, service station, where the answer is to ration customers to a maximum of 4gal. 'But, from a common sense point of view, you surely have to look after your good customers who buy petrol from you throughout the year. I can understand drivers getting choked off, though, especially if they're down to their last half-gallon ...'



▲ 'Garages with Regulars Only signs? I'd close them down if I could,' said National Coal Board contracts manager John Penn, 50. 'We all should boycott them when the signs appear. When I leave home in the morning, my local garage isn't open, so I buy where I can, and sometimes it's a struggle. How do you become a "regular" if you're not in one area?'

Chris Story

biased towards foreign cars. Having driven Alfa Romeo's Alfusud and the VW Polo, I can say that the Allegro is superior in terms of ride, handling, roadholding, steering and braking, which may surprise many motoring writers who, in my view, would be incapable of testing a dodgem car.

I believe that BL deserves credit for battling against overwhelming odds.
B A Caddich
Sheffield, S Yorkshire

Taxing his patience

There is another side to the coin, Mr Bissett. Take the experiences of a friend of mine. She had a Triumph Dolomite from new, and had endless troubles with the gearbox, and constant-velocity joints.

Eventually, last winter, a combination of black ice and a large tree resulted in the car being written-off. However, she bought another Dolomite. She

reckons it is even worse than its predecessor, and is now thinking Japanese.

Another friend has a Daimler Sovereign — £15,000-worth of beautiful car. But, every time it rains, water pours in under the scuttle. It has been back to the dealer six times without cure, and its owner is now thinking BMW.

Me? I've owned 11 British models and suffered an average amount of minor and major troubles. The most serious involved my last UK-made car, a Ford Cortina GXL.

After that, I went Japanese. The outcome? Apart from a radio that gave poor VHF reception, which was changed without question, the only problem after 11,000 miles of very satisfying motoring has been a boot lamp's failure.

Bearing in mind that I am already taxed to keep BL and Talbot afloat, I don't propose to subsidise them further by buy-

ing their inferior merchandise.
Ron Tilson
Potters Bar, Hertfordshire

UK, 6 — W Germany, 1

Since the early 1960s I have owned two Triumph 2000s, a Triumph 2.5Pi, an Opel Commodore, a Triumph 1500, a Triumph Dolomite 1850 and an Austin-Morris Princess. I kept the Opel for only three months, and hurried back to BL.

John Stanley
Croydon, Surrey

Disappearing trick cyclist

Riding a motorcycle is a hazardous business, no matter how much care one takes. After driving a car for 28 accident-free years, I switched to a motorscooter for economy reasons 18 months ago.

In the last three months I have been involved in two accidents — both through no fault of my own. The first was a hit-and-run when a car cut in front of me on

a roundabout. The second was the result of a car pulling out of a side road into my path. The driver subsequently admitted that he had not seen me.

These incidents occurred in daylight, with good road conditions. I also had my headlamp on — in addition to wearing a bright-red suit and an orange crash helmet.

Dr J A G Watt
Bearsden, Glasgow

Smoke screen

I sympathise with bus drivers whose attempts to pull out are thwarted by motorists refusing to give way (Letters, November-December). My own excuse for overtaking them almost at all costs is the pall of evil black smoke that threatens to sicken me for my courtesy in holding back. I submit that such wasteful emissions are a crime to other road users.

J Sharp
Hessle, Humberside

OBLIVIOUS to the traffic's roar and the slipstream that fluttered the hem of his garment, the Rev Dr Donald Omand stood on the grass beside a busy South Coast holiday route and quietly murmured: 'Deliver from destruction all those who travel this road . . .'

The following weekend was the August bank holiday, when the notorious accident black-spot could have been expected to claim its usual quota of accident victims. But no one died or was injured that weekend, and, indeed, no one has been hurt there since.

Luck — or exorcism? For more than 40 years, Donald Omand has maintained that malign spiritual influences can and do cause road accidents. He also claims to have statistics to prove that dozens of dangerous stretches of road have become safer after receiving his attentions.

Hard to believe that the Devil can influence the way you drive? 'In my experience,' says the 76-year-old Church of England clergyman and international authority on exorcism, 'the majority of recognised black-spots are not at obvious danger-points — say, on a bend or on a hill. They are on seemingly featureless pieces of highway, with no hazards and good visibility. Nevertheless, accidents continually occur there. My theory, as an exorcist, is that such places contain a real spirit of evil, perhaps as a result of an ancient curse long since forgotten.'

'For instance, the main road through one Scottish glen had a terrible curse on it, which I was able to lift. Once a road has been built on cursed land, that curse can be kept alive by the malicious minds of people living today.'

'The most common experience is to be driving along quite normally when, at a specific point on the road, the driver has a sudden urge to act irrationally and dangerously — either to drive headlong into approaching traffic, or to steer the car off the road at breakneck speed. Many cases of so-called "motorway madness" are connected with this impulse.'

Dr Omand's research, carried out since the late 1930s with a group of European psychologists and medical scientists, has led him to believe that this type of incident, during which the motorist is held actually to be 'possessed' by an evil influence, takes place in closely defined areas — particular bends or specific stretches of road — regardless of the conditions. 'Indeed, in one investigation, we found that six motorists had undergone an identical experience on a piece of road less than 450yd long. Then, as the road continued, the influence disappeared.'

There can be little doubt about Dr Omand's credentials, nor his enthusiasm. From his home in Cullompton, Devon, he travels the world to thwart 'the Devil's work'. During the coming months he will be exorcising and lecturing in Greece, the US and Bermuda. He never charges a fee, and usually he insists on secrecy before undertaking an exorcism, refusing to give even the location of exorcised

The Devil rides out

Evil, says The Exorcist*, doesn't simply stalk the land — he drives, too

sites, in case this upsets the bishops of the dioceses in which he has worked.

'Recently, I agreed to conduct an exorcism on the understanding that there would be no publicity. When I got there, the place was full of pressmen and cameras. I turned round and drove away.'

Several police forces — a body not known for its credulity — have asked Donald Omand to exorcise dangerous roads in their areas. 'Privately, they have told me that it wouldn't help to have the link between "possession" and road accidents generally accepted. After all, it could perhaps be used as an alibi for dangerous and careless drivers.'

In one case to which the police drew his attention, 'three drivers, on three separate occasions, while driving at night were horrified to see the bleeding, nude body of a girl lying in the road. But, when they stopped and ran back to investigate, there was nothing there.'

'I found, from a local authority on folklore, that, nearly 200 years earlier, a country girl had been raped and left to die at that exact spot. Happily, after my exorcism, the spectre of the bleeding girl has not been seen again . . .'

Usually, says Dr Omand, the mischief is caused by a spirit of evil, but sometimes it is the result of a malicious influence generated by a living person, as in the case of a recent exorcism he carried out.

On this occasion, he stood on a bank overlooking the road — a steep curve leading down to a bridge that had been the

scene of nearly a dozen accidents in the previous 12 months. 'The road had practically been rebuilt to make it safer, but this had resulted in even more accidents. As I stood looking at the road, I could feel there was evil there — it wasn't a *spirit* of evil, but the influence of a malicious human mind or minds.'

'I prayed, and sprinkled the holy water that I had brought with me; then I carried out an exorcism, using an ancient form of words that I had translated from the Latin. Most of my exorcisms were devised by me more than 30 years ago from translations of Latin and early-German. On other occasions, I use ordinary English: as you grow older, you find yourself getting on more familiar terms with the Devil, and can talk to him in a language that he understands very well.'

Apparently, the Devil got the message: since the exorcism, the number of accidents on that road has dropped dramatically. 'The malign influence has apparently been lifted,' says Dr Omand. 'To be honest, I expected that it would be.'

On another occasion, on a busy and dangerous road between Charmouth and Morcombe Lake, in Dorset, where there had been 17 accidents in six months, the cause seemed to be 'possession' — an alien presence taking over vehicles and causing their drivers to lose control. Since Dr Omand's exorcism, there have been no more accidents.

The 'possession' theory is one that has been supported by Dr Omand's visits to more than 100 hospitals, during which doctors and consultants confirmed that victims frequently admitted that they had behaved irrationally at the wheel, but had been unable to help themselves.

'One of the most frightening pieces of evidence came from a student nurse in a busy casualty unit. She claimed that, before he died, a badly injured motorist had told her that he had been driving at a normal speed along a country lane when he noticed a white sports car speeding towards him. Suddenly, he felt an indescribable urge to swerve into it. In desperation, he prayed and was able to withstand the temptation. *At that very moment, however, the other car swerved across the road and ran into him.*

'If what I believe is true, both motorists were tempted simultaneously by some evil spirit, but only one of them had the strength to resist.'

'Similar experiences have been related to doctors and nurses in numerous hospitals. One motorist told us: "It was a compulsion that I simply could not resist — worse than standing on a high building and feeling drawn to throw oneself into the street below."

'I came to the conclusion, many years ago, that there is undoubtedly "possession at the wheel", and that any motorist driving on a road that harbours a malign influence can fall victim to it.'

Why should The Exorcist who is so shy of publicity talk to DRIVE?

'I believe,' says Dr Omand, 'that the

*The Rev Dr Donald Omand was born in Perth, 1903, and had a varied career as a free-church minister, lecturer and journalist — during which he met Hitler and Himmler — before becoming a Church of England minister in 1954. Vicar of several south of England parishes, he retired in 1971; now, he exorcises and lectures in Gt Britain and abroad. In 1978, he organised an exorcism of the Bermuda Triangle, scene of countless mysterious shipping losses. Since then, he says, no inexplicable incidents have occurred in the area.



only answer is to tackle the source of the problem. In many Catholic countries, shrines are erected by the roadside in gratitude for lives saved. I think that shrines should also be erected where lives have been *lost*, in an effort to remove the hoodoo. And I would urge people to get together to persuade local clergy to bless new roads and road changes or improvements. In my time, I have blessed a large number of new roads, and, so far as I know, they have never become accident black-spots.' TONY JAMES

Is it mere coincidence, or do Dr Omand's methods *really* work? DRIVE checked out one accident black-spot that he exorcised in 1972 and 1978 — close to a road junction 150yd from the bottom of a long, steep hill in a West Country town. According to local-authority records, three accidents happened there in 1971 and again in 1972, and two in 1970. Six people were injured, two seriously.

One driver told of a near-miss when, travelling down the hill and about to turn off, he felt an 'unseen power' take over. With no accident to explain away and no need to find excuses, he maintained that the steering wheel had been moved against his will, to keep the car on a downhill course, and something had made his foot push hard on the accelerator. Only with great effort was he able finally to regain control.

That was enough to make Dr Omand suspect a malign influence, and he carried out an exorcism ritual in 1972.

Remarkably, the official records show that this section of road then remained accident-free for the next three years — only one minor incident was logged, in 1975, and no one was hurt. Then, in 1978, there was a bad accident, and a motorist was taken to hospital with severe injuries.

'It is clear,' says Dr Omand, 'that black-spots need to be exorcised once every two or three years. My belief is that, if there is no goodness to fill the vacuum left by the original demon, another quite-different evil presence will be attracted to dwell there.'

So it was that, in 1978, he returned to the West Country town and intoned prayers at the kerbside. Since then, there have been no reports of any accidents.

There have, however, been two incidents (in 1974 and 1976) at the foot of the hill just down the road. In the first, a runaway articulated lorry with bricks hit a block of flats, killing the driver and a resident. In the other, five people were slightly injured when the brakes of a coach failed.

'This vividly demonstrates that the beneficial effects of exorcism are extremely localised,' says Dr Omand.

Not that his services will be required at this particular black-spot: lorries of more than 24 tons laden are now prohibited on the hill, and coaches have been banned altogether. Which tends to suggest that evil spirits can also be held in check by the long arm of the law . . .

Three time losers?

JOHNS HOME is living on a knife-edge. Like thousands of others, 32-year-old Home, a 30,000-miles-a-year sales manager from Beccles, Suffolk, has only to chalk up one more driving conviction in 1980 to face probable disqualification for six months or more . . . following a four-month ban under the totting-up rule, after collecting a third endorsement in three years in the summer of 1978.

Fair enough, you might say. A man who picks up convictions like John Home gets only what he deserves. But consider: Home's three endorsements in the last four years have been for speeding (twice) and for 'jumping' a traffic light; in that time he has actually driven more than 120,000 miles, which is what the average motorist covers in 15 years; and, if he gets caught doing 35mph in a built-up area any time between now and Christmas, he could find it very difficult to do his job. If he were still a sales rep, the chances are that he would get the sack.


Is *that* fair? If someone told *you* that three run-of-the-mill motoring offences in 15 years would cost you your livelihood, would you be content that justice was being done? Like John Home, you'd probably hope fervently that the Whitehall working-party now reviewing road-traffic law will come down heavily in favour of scrapping the totting-up system that recommends a ban for every three endorsements, and replacing it with a points system . . .

Unlike totting, a points scheme would seek to make a distinction between 'ordinary' and serious motoring offences. 'A points system,' argues Home, with feeling, 'is more flexible, fairer.'

Fairer, maybe. Which is why the AA supports the present exploration of a more-sophisticated system. But hopes that motorists may have of it proving more flexible could be dashed. That is the view of Geoffrey Norman, secretary of the Magistrates Association.

Under the points system operated in some Canadian provinces, for instance, a driver who 'scores' 15 points suffers *automatic suspension*. It's the possibility of this sort of rigid penalty system that worries Norman. Certainly, it would be a tempting step for the working-party to





recommend: courts would then not have to spend time hearing and considering pleas of excessive hardship that driving bans may cause. And it's inescapable that one of the aims of the traffic-law revision is to reduce the burdens that the present system places on magistrates.

Though few people appear to realise it, totting-up is actually pretty generous: every year, despite picking up three endorsements in the specified period, thousands of motorists escape disqualification by convincing the Bench that a suspension would have serious repercussions on, among other things, employment prospects. It's not unheard-of, even, for some offenders with four endorsements being allowed to drive on.

Will the working-party, and subsequently the legislators, also hold that a points system is more lenient? If they do, it is possible that they could opt for *longer* periods of disqualification when they come to work out penalties. At the very least, they could insist on a *minimum* six months — which, in fact, was the intention under totting-up at the outset. In practice, however, magistrates have tended to view this as a *maximum* term. But all this could change.

More words of caution are voiced by RoSPA road-safety director Mike Read: 'A points scheme could encourage drivers to regard some offences as being less serious than others, which in turn may influence them to take greater risks.' And James Carr, manager of the AA's environmental affairs department, points out: 'All endorseable offences — including relatively minor transgressions — carry an element of potentially dangerous road behaviour, and, as things are now, three such breaches in three years surely indicate *some* irresponsibility.'

If offenders fail to modify their driving under a severe system, the argument goes, what chance is there of a potentially more-lenient scheme making people change bad driving attitudes and habits? This thought, too, could help shape the working-party's deliberations.

As it happens, it was to make persistent offenders think — not twice but thrice — that totting-up was launched in 1962. Does it? The truth is that no one knows.

Remarkably, the Home Office has never investigated whether the original objective has been achieved. It has not logged the number of drivers who, after getting their licences back, have been banned again; nor has it recorded how many motorists have proceeded to commit a fourth offence after being allowed to keep their licence after a third endorsement. It doesn't even know how many totting-up offenders have been caught driving while disqualified — vital information that surely needs to be taken into account before penalties or other methods can be determined to encourage erring motorists to change their ways.

From the figures that are available, the only clear fact is that *at least* 25,000 drivers a year fail to heed two warnings:

even after receiving two endorsements, and knowing that their licence is in jeopardy, they end up with a ban.

The reality is probably worse. Writer Elizabeth Burney studied 717 totting-up cases for her book *JP, Magistrates Court and Community*, and estimates that slightly more than 40% of offenders are let off with only a fine on their third endorsement. If she's right, the number caught breaking the law again after two endorsements may be around 35,000.

The annual total of drivers suspended under totting-up has remained more or less constant since 1974 — a fact that, given the 570,000 additional vehicles on Gt Britain's roads in the same period, might suggest that motorists are taking better notice of speed limits and traffic

LIFE AFTER THE BAN

Most people know that a drink-drive conviction makes subsequent insurance horribly expensive; recent television commercials have underlined the point. But a tot-up ban, too, can cost dearly . . .

That's what Dorothy Mace discovered after a couple of driving bans. The 29-year-old Stockport, Cheshire, housewife, living apart from her husband, lost her licence for three months after a trio of speeding offences in 1978. A fourth endorsement, shortly after, earned her a six-month suspension. She has had her licence back just over a year, now.

'But not only do my insurers want £180 to cover my Mini,' she laments, 'it will be another two years before the excess is taken off. I can't even hire a car until 1984 because of insurance requirements. I simply can't afford to be on the road.'

Even after one disqualification through, say, three minor offences, premiums can rise between 25% and 50%. And for more-serious infringements, the insurance bill can double. Collect a second driving ban, like Mrs Mace, and an insurer will view you in almost the same light as a drink-drive offender. The chances are that the best you'll be offered will be minimum cover at double cost.

It is actually around insurance that the points system in the Canadian province of Saskatchewan revolves. Instead of paying fines and facing the threat of suspension, as elsewhere, offenders' points are totalled at the end of each year and their premiums calculated accordingly.

signs, and greater care with their driving and the condition of their vehicles. In fact, it's more likely that the limit of enforcement has been reached, and that the number of motorists who are prosecuted represent the tip of an iceberg.

If we are honest, most of us probably would admit that we break at least one of the proliferating number of legal requirements every time we drive. We don't, for example, routinely check indicator, brake and driving lights before starting up, nor check tyres daily for tread depth, bulges and cracks, but a fault in any of these can land you in court.

Says Doug Anderson, a part-time

continued on page 62



HOME MECHANIC

Beating the drum

CAR MAKERS usually recommend that brakes be adjusted every 5000-6000 miles — a short interval that gives your wallet little time to recover between garage services. But why pay a garage when, for the cost of a brake-adjusting spanner or screwdriver, you can do the job?

Some drum brakes have one or two adjusting screws or nuts, which are turned to move the brake shoes nearer the drum and so compensate for their wear. Depending on the design of the brake, the adjuster may protrude through the drum's backplate (easily accessible from under the car) or be inside the drum by an access hole (see below).

Manufacturers do not always provide information in their handbooks on adjusting drum brakes. If the adjusters cannot be found, ask a local dealer if your car has any — it may have self-adjusting brakes instead. Make sure that you do not loosen the bleed screw by mistake, as this will let air into the hydraulic system. (The bleed screw has a hexagonal head with a nipple on top.) Make sure, too, that you always use the correct brake-adjusting spanner for your car. An open-ended spanner can slip and round-off the corners of the screw head, making it impossible to turn.

Most adjustable rear brakes have a single adjuster protruding through the backplate, whereas front drum brakes have two adjusters that may need to be turned in opposite directions to move the shoes towards the drum. To avoid

confusion, follow these steps:

- 1 Use chocks to prevent the grounded wheels from rolling, release the handbrake and jack up the other side of the car for its brakes to be adjusted.
- 2 Rotate each wheel to make sure that it moves freely. If a rear wheel does not, check that the handbrake is fully released. (On driven wheels, you will always feel some resistance due to the transmission's drag.)
- 3 Locate the adjuster and, if it's the screw-in type, clean the thread.
- 4 Rotate the wheel while turning the adjuster clockwise with a brake-adjusting spanner until the brake linings are felt to drag against the drum. Most adjusters have a notched action, with four distinctly tight points per revolution. Set the adjuster between the tight spots.
- 5 Press the brake pedal to centralise the shoes. If the wheel spins freely, turn the adjuster again until the linings drag. From this point, turn the adjuster in the opposite direction, one notch at a time, until the wheel can be turned freely. A very light, rubbing contact is permissible.
- 6 Repeat steps 1-4 on the opposite brake.

On a few cars, the rear drum brakes are adjusted by a toothed or notched nut inside the drum. For these, follow steps 1 and 2, then remove the plastic or rubber plug in the backplate or drum, and...

3 Push a screwdriver blade through the access hole and against the edges of the nut to rotate it (see below, left). Then turning the wheel. If the linings do not begin to rub the drum, turn the nut in the opposite direction until they do. Then turn the adjuster in the opposite direction until the wheel rotates freely. (A small amount of rubbing contact is permissible.) Repeat this operation on the other adjuster.

4 Press the brake pedal to centralise the shoes.
5 After brake adjustment, lower the car and check the action of the brake pedal before driving the car on to the road.

Handbrakes

All handbrake linkages have adjusters to take up cable stretch and slight wear in the joints.

The rule to observe when adjusting the linkage is that it must always be slightly slack when the brake is fully off. If any tension is present when the handbrake is released, the brake shoes or disc pads will be prevented from returning fully to the off position. It can also cause overheating or overlong pedal travel, and self-adjusting brakes that are triggered by the handbrake cannot adjust themselves if an overtight linkage prevents them from returning fully to the off position.



Top: the adjuster is usually a single nut located on the backplate. Clean it and (above) turn it clockwise until the linings drag on the drum. Then press the brake pedal, tighten again, and slacken until the wheel spins freely.

Most handbrakes have a single adjuster and a mechanism apportioning the braking effort equally between both wheels, but a few have two separate cables — one to each wheel — and these have two adjusters.

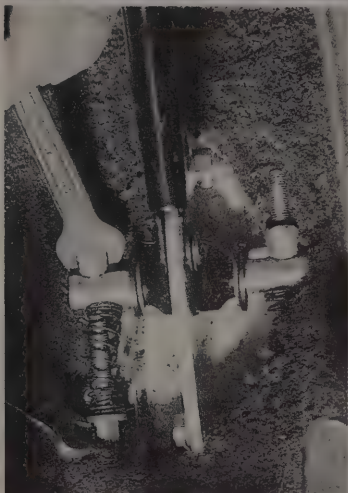
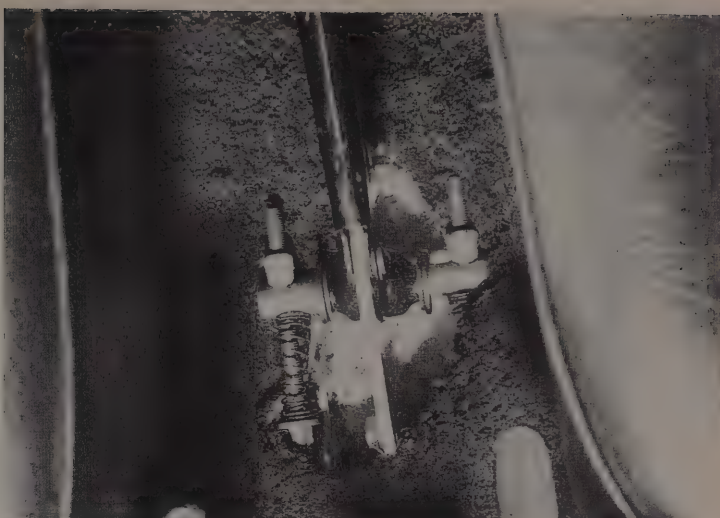
To set up the single adjuster type...

- 1 Adjust the brake shoes (as before).
- 2 Chock the front wheels, raise the back of the car and support it on axle stands.
- 3 Ensure that the handbrake is fully off, and then work all the joints in the linkage to check that they move freely. Use penetrating oil to loosen any stiffness.
- 4 Loosen the adjuster's locknut and turn the adjusting nut to take up some of the cable's slack.
- 5 Relock the adjuster and check that there is still some slack in the linkage.
- 6 Test the handbrake. It should apply the brakes well before it reaches the end of its travel. If it does not, the linkage is worn and should be checked by a garage.
- 7 Lower the car to the ground.

Some linkages have one cable to each back wheel and two adjusters, usually at the handbrake lever, so it's important that the braking effort is equally divided. To achieve this, first follow steps 1 to 3, then...

4 With the handbrake fully off, hold the threaded adjuster rod on its hexagonal section with a small spanner.
5 Rotate clockwise the adjusting nut at the end of the threaded section to tighten the cable, counting the number of turns. Check from under the car that the cable is still slightly slack before continuing.





- 6 Repeat the above procedure on the other cable, rotating the adjusting nut clockwise the same number of turns.
- 7 Lightly apply the handbrake.
- 8 Rotate one road wheel and note the drag on it. Rotate the opposite wheel in the same direction. The drag should be the same. If it is not, loosen the adjusting nut on the cable to the tighter wheel until the drag on both wheels is equal.
- 9 Check that the handbrake applies the brakes well before the end of its travel, and that the cable is slightly slack when the handbrake is off. If it is not, let a garage check the linkage for wear.
- 10 Lower the car to the ground.

Top left: the single-adjuster type of handbrake must be worked on underneath the car. Top right and above: the twin-adjuster type is easily reached by the lever. Left: equalise the brake drag on both rear wheels.

Based on the new AA/Marks and Spencer book 'Car Care' — 224 fully illustrated colour pages explaining how a car works, and what to do when it doesn't. Price £3.50.

Bleed, no sweat, no tears

BLEEDING YOUR BRAKES? Nothing to it. Just undo the bleed nipple at the backplate or the caliper, have someone push gently on the brake pedal, watch until the fluid ejected is free from bubbles and new fluid is coming through, connect up the pipe again, and top up the reservoir. That's not the whole story, of course, but it's the basic idea. Where's the problem?

The problem is finding a neighbour, a friend, a relative — even a wife — to sit there while you undo nuts . . . and shout at them for pressing (or not) on the brake pedal. If only you could do the job on your own . . .

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CLAM CARRIER

Clinic

Any problems? Whether they are technical, insurance or legal, DRIVE's experts can help. Write to: Clinic, AA, Farnum House, Basingstoke, Hampshire RG21 2EA

Group rates

Having read the car insurance ratings in DRIVE's Used Car Price Guide, I am wondering why my insurance has gone up. When I changed from a Morris Marina 1.8 to a late-1979 Austin Maxi 1750HL, I had to pay a higher premium for the privilege, but you quote a Group 3 rating for both cars. Who is right, DRIVE or my insurance company? — J WALKER, BRADFORD

DRIVE is — but your insurance company isn't the only one to get the Maxi muddled. Prior to April 1979, the HL was a twin-carburettor (91bhp) model, and was therefore given a Group 4 rating. But HL models built after this date were fitted with a single-carburettor (72bhp) engine, which dropped the insurance rating to Group 3. (The HLS was given the twin-carb engine and consequently a Group 4 rating.)

Discrepancies and confusion

over ratings such as yours have arisen because it seems that quite a few insurance companies were unaware of the changes that BL made to the Maxi, and they continued to charge single-carb owners twin-carb premiums.

Wife uncovered

I know that my insurance policy covers me to drive other people's cars, but does the same cover also apply to my wife, who is a named driver on my policy? — L WILSON, POOLE

No. This section of your private car policy gives only you, as policyholder, third-party cover when you are driving a vehicle that's not owned by or hired to you under a hire purchase agreement.

Hard life

I drive a 1974 Mini issued by the Ministry of War Pensions, and it has covered 29,000 miles — 90% of which have been short-distance trips of ½-1½ miles. Because I cannot afford a major overhaul, it is now beginning to let me down, but the Department of Health and Social Security says that it should not need overhauling at such a low mileage. Can you give me an estimate of the wear you think the car has had? I think that it must be the equivalent of

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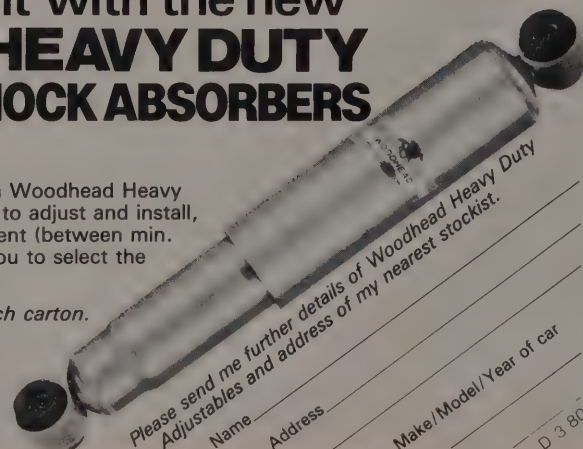
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80,000 miles in view of the sort of life it has led. — W J CHAPMAN, BRENTWOOD

Sorry, but without examining the car we can't be specific. However, as you say, running a car on short journeys does increase wear on such components as brakes and clutch, and can also result in poor performance because the choke is used more frequently and the engine has little chance to reach its normal operating temperature.

Your best course of action lies with the maker's recommendation that your Mini be serviced at six-monthly and 12-monthly intervals, with the recommendation that owners 'report any additional work required'. Bearing this in mind, an Austin-Morris dealer could help you by reporting on components that are worn or have failed due to their operating conditions. Such expert opinion might help you in any disagreements with the DHSS.

Blow-out means run-in

Is it necessary to 'run-in' a car tyre after having had a puncture repaired? — N P CADAGAN, STONE

If you're referring to a puncture repair on an old tyre — one that has run several thousand miles — it is necessary to drive steadily

for only 10-15 miles at speeds not exceeding 50-60mph to make sure that the repair is effective.

New tyres should be run-in for 50 miles at speeds not in excess of 50mph. Speed should then be increased gradually up to the legal maximum for the next 450 miles; at 500 miles, it is advisable to have the wheels rebalanced.

Don't faucet

Your Save It advice (November-December 1979) regarding the use of distilled or de-ionised water in a battery is something that I have never followed. I have always used tap water — and even river- and well-water — for topping-up.

My much-abused battery is now nearing its eighth birthday, and has never been in the clutches of a battery charger. Have I just been lucky, or is variety its spark of life? — G O JONES, MANLEY

Yes, you have been very lucky. It is rare for a battery to last for so long even when given tender loving care; four or five years is about normal. The fact that yours contains all sorts of dissolved solids, such as lime, and is still going strong must be something of a record. Using the wrong sort of water leads to self-discharging; this means

that if the battery is left standing for a week it will go flat.

Part of your success may be that you live in an area where the tapwater is compatible with your battery's needs, and that the battery is a large-capacity one that has never had to work too hard.

Making light of it

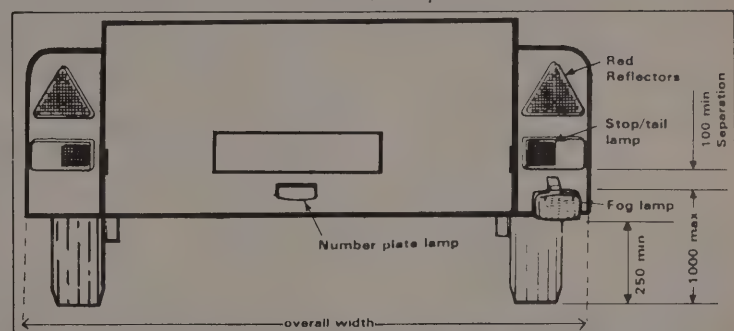
I intend to build a camping trailer, but am uncertain about the legal requirements for lighting — particularly for the fitting of high-intensity rear lamps, which I believe are now compulsory. — N SOPER, BATH

A trailer built after 1 October 1979, and which is used on the road after 1 April 1980, must be fitted with at least one approved high-intensity rear foglamp; but if it is towed by an older car (pre 1 October 1979), the foglamps need not work. When an older

trailer is towed behind a newer car, foglamps do not have to be fitted to the trailer.

If your trailer is more than 4ft 3in (1.3m) wide, it must be fitted with at least one foglamp, and if you intend to fit two lamps they must be an exact pair, positioned symmetrically. Position the lamp(s) as shown in the illustration: not less than 9.84in (250mm) from the ground, and at least 3.94in (100mm) from the trailer's brakelamps.

Foglamps may be switched on only during poor visibility, such as fog and falling snow. Wire them through the number 2 pin on the trailer's electrical socket (blue cable) so that they can be worked independently of the trailer's other lamps, and make sure that their switch has an indicator lamp visible on the fascia to show when the foglamps are on.



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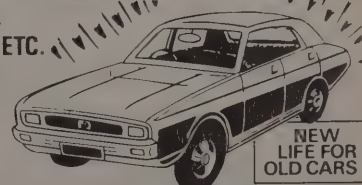
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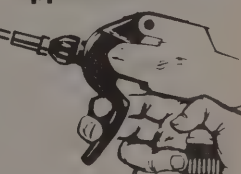
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Aerials de-mistified

THERE IS SOMETHING about telescopic car-radio aerials that makes vandals home-in on them, judging by the numbers that are bent or snapped off.

One way to foil such damage is to take the aerial inside the car, and the experts have not been slow to invent some helpful gadgets. The cheapest is probably a metallic strip that's stuck to the front or rear window; others include special wing-mirror aerials, and a device that enables the rear window's heating element to be used as an aerial.

This last device, the Bi-Fi, is well engineered, well designed and, at about £14, well ... expensive. But it is a cut above its stick-on-screen rivals.

A quick way of testing this device would have been to fit it

to a car and simply listen to the various wavebands. DRIVE's electronics expert, however, doesn't always believe his ears, and he preferred to measure the Bi-Fi's efficiency more accurately by rotating the vehicle in the field of known broadcast-strength radio stations. (Budding Einsteins might like to know that field strength measurements were carried out using a heterodyne voltmeter).

After its installation, following the manufacturer's instructions, the Bi-Fi got a mixed reception. It performed better than a telescopic aerial in long- and medium-wave reception, but was worse at FM reception — at least that's the result obtained with an Austin Princess. We'd expect this to be a general rule, but some variations may occur because of the different rear screen heaters.

We also found that the Bi-Fi's performance was gov-

erned by the standard of its fitting, so some well-intentioned DIY electricians may bite off more than they can chew.

On the plus side, the Bi-Fi cannot be attacked by rust, hooligans or carwashes, so you could save money in the long term.

On the rack

WHAT DO YOU look for when you buy a roof rack? Price is obviously a major factor, but if cheap equates to nasty then it isn't much of a bargain.

DRIVE examined six roof racks as part of our new-style accessory-testing programme, and devised a method of weeding out the weaklings.

The racks selected were: the Fapa Unibag 10520, £17; the Freeline K850, £21, and TR4, £42 (both having the AA's Seal of Approval); and three from Desmo — the Accordion, £21; the 4000, £24; and 4320, £22.

Our main requirement was that they should be capable of withstanding the stress and strain of a crash stop, so we applied forces similar to those present in normal use.

Each rack was attached to the roof of a Ford Escort and loaded with a box weighing 150lb. Using a winch and spring weight balance, each rack was then subjected to pressure equivalent to a 2g deceleration — a normal emergency stop exerts forces close to 1g. The load was applied and released in 20lb increments to establish

the rack's deformation pattern. All the racks passed this test, and so are safe in normal use.

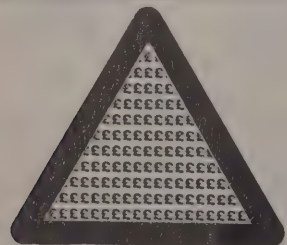
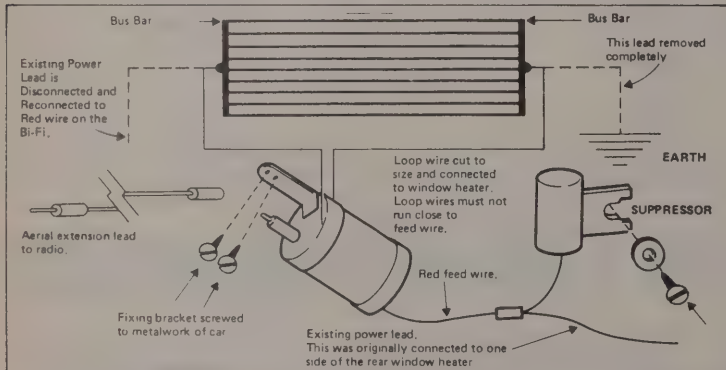
While the general quality of plating and finish was acceptable, the black Unibag had started to rust and was losing its initially smart appearance. A box spanner was thoughtfully supplied with the Unibag to tighten its 10mm bolts. Unfortunately, it was totally inadequate for the job, and actually failed *before* we had assembled the rack.

Due to the number of parts involved, the two Freeline racks took longer to assemble.

The Desmo Accordion is supplied ready-assembled. It is extended and clamped prior to fitting on the car, and may be compressed after use for easy stowage.

Assembly of the Desmo 4000 was straightforward, with the legs attaching by clamps that use four screws each; but our tester had some trouble clamping the rack to the roof channel as the screws used are too short to make engagement easy.

All the racks were capable of doing a useful job, so which was the best of the bunch? Well, we'll play the Accordion — even though it is pricey. We liked it simply because it could be folded up, making it easy to store in the garage, and because its size could be altered to suit different cars. It was very well made, and impressed our expert as 'a nice, heavy job'.



CONSUMER AFFAIRS

Old cars for new

THE NEW car looked as good as its advertisement as it gleamed in the subtly lit showroom. The dealer seemed to have done his pre-delivery checks scrupulously before handing it over to young Martin Woodley.

It wasn't until the 30-year-old interior designer went out to polish his pride and joy that he noticed the paintwork on the boot. At first he thought it was

just a trick of the light, but the boot was definitely a different tone of blue from the paint on the rest of the car.

He asked his neighbour for a second opinion. 'You've been had,' was the reply. 'Metallic paint like yours is tricky to match — the boot lid has obviously been damaged, beaten out and resprayed.' Almost wishing he'd never asked, Martin stormed back to the dealer to complain.

'Damaged? It's news to me,' was the cool reply. 'Anyway, what are you complaining about — the car looks fine, and you did accept it.'

'That's not the point,' protested Martin. 'I paid good money for a new car, and this one has been damaged.'

Stalemate?

The reaction of most consumers in Martin's situation is the same — that a new car should be in pristine condition when it leaves the production line and should stay that way until it reaches the buyer.

Unfortunately, the courts

look at it differently. When a dealer and a manufacturer were both prosecuted under the Trade Descriptions Act for selling a damaged and repaired 'new' car, it was accepted that accidents will happen — in the factory itself, on the transporter, at the docks, or anywhere else in the supply chain.

The vital question, said the court, was not whether the car had been damaged and repaired, but the extent of the damage and the quality of the repair. In other words, if the damage is repaired so that the car is 'as good as new', then it can be put on the market as a new car. Obviously, a stage can be reached where the damage is so extensive that a car cannot be made 'as good as new', but this stage will vary in every case. It is also important that repairs are done not simply to hide the damage but genuinely to restore the car to 'as new' condition.

The last point is, of course, important not only to new-car buyers but also to secondhand bargain hunters. If, for example,

clever repairs have been done to hide extensive corrosion, it may be said that the car is telling a lie about itself. Even if the seller said nothing, an offence may be committed under the Trade Descriptions Act.

Martin's best course of action is to get the view of an expert as to whether the repairs to his car have been properly done. If it is deemed that the car is not in fact 'as good as new', then he has two possible courses of legal action: he can complain to his local trading-standards officer, who has the responsibility of enforcing the Trade Descriptions Act, or he can take action against the dealer himself for breach of the contract of sale, as the car should have met the description applied to it.

However, legal action isn't always the best way to deal with problems, and Martin may get results without such expense if he simply talks to the dealer about having the repairs done again. He shouldn't be in too much of a hurry to put the boot in!

ANTHRA WORSDELL

Celebrity Golf tops ratings

VW Golf GTi

Price £1545 (110bhp GLi) £1695 (1600cc GLS)

And now, to cap the lot, this high-compression fuel-injected version, with bowl-in-piston combustion chambers, bigger valves and improved oil flow, has a quoted power output of 110bhp, yet remains as well-mannered as ever.

To anyone unfamiliar with the engine, its twin qualities of brute power with decorum must seem astonishing. Its response to 'booting' the accelerator in fourth gear at 30mph is as eager as it is smooth, sweeping up to 50mph in under 7sec and dashing gleefully on to 70mph in little more than twice this time. Admittedly, the higher fifth gear has compromised low-speed pulling power; compared with a four-gear Scirocco

GLS, our speed-range times in top are a trifle slower. Note also that maximum torque is developed rather late at 5000rpm, though the engine will amble along well, accepting 35mph cruising in fifth without a murmur of protest.

The precise five-speed box positively invites use, and the GTi responds like the proverbial rocket. With this excellent shift, the only feature that has to be mastered is its very short travel across the gate. Once learned, it's a friendly and foolproof set-up that makes changes between third and fifth especially easy. We all took to the golfball gearknob, too, finding it comfortable to grasp.

So much power has to be tamed

by a well-tuned suspension — especially on a front-wheel-drive car. Again, VW has done such a thorough job that the only problems to beset the GTi's lowered, stiffer set-up are its restricted ground clearance and the inevitable front-wheel scrabble when too much power is applied while moving away from rest.

None of this will surprise the enthusiasts at whom the GTi is aimed. It is a specialist car that makes some sacrifices in the usual VW failsafe design to achieve taut and sporty handling. We examine these limitations later; but for the real driver-enthusiast, the GTi's cornering power, steering precision and acceleration will be more than ample compensation.

The GTi sits on fat HR (high speed) radials, and most of the time it corners as if on rails. Its

The Volkswagen that used to put a gleam in the eye of enthusiasts was the sleek Scirocco GLS, with its 85bhp, 1600cc engine; now, that has been eclipsed by the fuel-injected 110bhp GLi. But, for £1545 less, you can enjoy the delights of 110bhp motoring in the Golf GTi. This tees-off for 1980 with a new five-speed gearbox, alloy wheels and enough suspension and trim modifications to make it look and feel a real family tearaway. DRIVE went looking for the handicap . . .

How it goes

VW Audi's 1600cc power unit is one of the best engine designs of the 1970s. It has spawned a variety of sizes and applications, from the trend-setting diesel of the Golf LD to the smooth, economical 85bhp version used in the Audi 80, Passat and Scirocco.



steering is never heavy, can be judged to the inch, and has a useful degree of 'road feel'. On most roads, wet or dry, and at sensible speeds, the GTi goes just where you point it.

At speed on the test track, we found that the car eventually began to run wide of its intended course — but at speeds far higher than most ordinary saloons could attain. Once at this point of understeer, easing off the throttle makes the tail swing out in a determined fashion that demands swift opposite-lock steering correction. It's this kind of handling that the experienced may relish, but the less-knowledgeable may have cause to regret. However, all this happens only at cornering speeds that are prohibited on Britain's roads.

With such cornering ability, the excellent location and support provided by the GTi's front seats are much appreciated. Their prominent side pads can make life uncomfortable as you ease into the car, but they prove comforting for long, fast drives. Driver legroom is generous, though the current Golf's accelerator is set rather high for our liking; some people might also find the gap between the driver's seat cushion and wheelrim too tight.

The customary Golf GLS instrument pack is used in the GTi, with its accurate tachometer and clearly calibrated speedometer. The main objections to this layout are that, however you sit, some of the scattered warning lamps are bound to be obscured by the wheel. Minor switches also confuse by rocking in different directions; and two extra dials on the centre console — a reliable quartz clock and an oil-temperature gauge (though it doesn't actually say so) are easy to miss. A worthwhile feature is the red warning lamp inset on the coolant-temperature gauge: it will light up if things get too hot underbonnet, and it flashes three times every time you start up — just to confirm that it's ready for action.

How comfortable

For a car that is not primarily designed for comfort, it's a pleasant surprise to discover how compliant the GTi's ride can be. Sharp dips and potholes jolt occupants in no uncertain fashion, but, on the most uneven of surfaces and at high speeds, the springing smoothes the way well.

Most of the time, the GTi feels less flurried than a VW Polo or Passat, which confirms our belief that the Golf's build is superior to other VWs — especially as it no longer squeaks or rattles. Road noise remains obtrusive on coarse surfaces, but wind sealing is excellent, even though we found

it easier to shut the doors with all the windows closed than on previous airtight Golfs.

Mechanically, the GTi's most-controversial characteristic is the exhaust boom that intrudes at 65-75mph. The throaty roar emitted when accelerating hard *through* the gears is something that *DRIVE* would be happy to live with; but the racket while cruising is unpleasant and tiresome, even for so extrovert a car. Everything's muted again at an illegal 77-80mph, and, on unrestricted German autobahns, this would be its optimum cruising speed.

In more-mundane use, the GTi's tractability is enhanced by fourth gear's ability to pull from below 20mph. The car's starting is always first-time, and it idles at a brisk but reliable 1000rpm.

The special front seats treat passengers' legs to the same generous space that they enjoy in the bread-and-butter Golfs, with reasonable side support, too, and scooped-out armrests. The luggage space behind is deep and neatly trimmed — plenty of room for the family dog — but the usual problems of the prominent sill and the spare wheel stowed beneath the suitcase remain. Oddments stowage is only just adequate.

We regret that VW has switched to the Polo's heater for the Golf, for ventilation was much better on the pre-1977 cars. In the GTi, things can get stuffy in winter and plain uncomfortable in mid-summer. The heater does its job well, but now that the Polo's ventilation is so much improved, the Golf is lagging behind.

How strong

Some sporting hybrids rust as quickly as they accelerate, but, with 3million Golfs to its credit, VW shows that practice makes perfect: this GTi's construction and finish is as good as any car's at the price. Its underbody protection is virtually beyond criticism, with pvc and petroleum wax covering everything, including those areas often missed on rival makes, such as wheelarch lips and the inner faces of bumper stone-guards. The only potential starting points for rust are beneath the plastic wheelarch spats (which prevent stone chipping) and around the door edges, where 'kiss-fit' seams can harbour moisture. We approve of the new pvc strip round the tailgate's edge, the tough plastic bumpers, and the fact that there's almost no brightwork to tarnish.

The inherently reliable engine seems capable of meeting the GTi's greater demands — after all, its block was designed to withstand the rigours of diesel power, too. Despite its high revving capability (there's an ignition

cut-out at 6900rpm), ordinary contact-point ignition is retained.

If you have to valet the GTi (as we do every test car), its pile carpets prove harder to clean than the cord used on L versions: they have to be vacuumed. The seats' fabric, however, couldn't be easier to care for. Outside, the waist-mouldings harbour water and complicate leathering-off, but the paint finish is a delight.

How safe

Special ventilated front discs and wide radials promised more than the GTi's brakes could deliver. In fact, the emergency stop wasn't quite as good as the GLS's that we tried last year, and a similar degree of fade occurred in the most-arduous braking conditions. What has improved is the system's 'feel' in ordinary use — the pedal travel is not so unnervingly long, and it now has good progression to an ideal pedal pressure for emergency stops.

The GTi's handling at the limit of its cornering is an acquired taste. With familiarity and a steady nerve, one learns that cutting the accelerator suddenly is *not* the thing to do. However, for the faint-hearted who can't resist backing-off in mid-corner, the GTi could well prove too much of a good thing.

Fortunately, injury padding is scrupulously fitted — only the areas behind the visors and the GTi's less-padded steering wheel would worry us. The seatbelts' centre clasps are now mounted on the front seats, so ensuring correct positioning and easier fitting, although these buckleless belts still pull across the chest too insistently for some.

Outside, the impact-resistant bumpers look excellent protectors for low-speed nudges, and, if the outer plastic cover gets damaged, VW will sell you just that at half the cost of the whole thing — see our spares table. The rear fog-lamp location on the bumper is a poor afterthought — it ought to be set into the rear cluster.

How much

We have yet to test a 1300cc Golf, but did obtain 36mpg from a Derby with the same engine and gearing. With 34mpg from an 85bhp Scirocco, an average 32½mpg seems fair for the fastest Golf of them all.

However, our standard test cycles indicate that the GTi uses more fuel when one *doesn't* exploit its performance potential. 40mpg is possible in theory, but it would require massive self-discipline; whereas the slower Scirocco GLS will achieve it without trouble.

Filling the tank to the brim is easy on this car, and, with its limited capacity, you *need* to

VW GOLF GTi

Parts/repairs (inc VAT)
clutch £52.06 (fitting 3hr)
exhaust £91.57 (1.2hr)
headlamp unit (less bulb) £17.53 (0.3hr)
front bumper £40.78 (0.3 hr)
laminated windscreen £39.04 (0.4hr)

oil filter and points £4.97 (0.3hr)
major service 10,000 miles (2¼hr av)

Insurance group 5

Warranty 12 months; unlimited mileage on running gear; six year 'rot-through' anti-rust

Standing costs per year/12,000 miles

Loss of value £368
Capital interest £350
New-cost inflation £499
Total = £1217 (10.14p per mile)

Running costs

Petrol (£1.20/gal) £443
Insurance (av) £179
Road tax, AA sub £72
Servicing/replacements £174
Total running costs = £868 (7.23p per mile)
Total ownership £2085 (17.37p per mile)

HOW IT COMPARES

VW Golf GTi

VW Scirocco GLS

Ford Capri 2000S

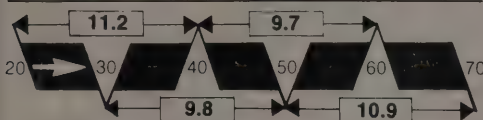
Renault 5 Gordini

Honda Prelude



ACCELERATION Times in sec

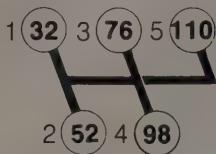
MPH	THROUGH GEARS	IN TOP GEAR
	3 4	
30-40	1 7	5 2
30-50	3 5	9 8
30-60	6 4	14 9
30-70	9 5	20 7



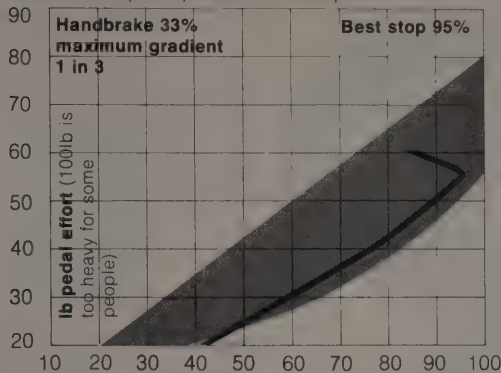
Top-gear speed-range times (sec)

TOP SPEEDS

max engine speed
used 6500 rpm;
max in top 5950 rpm;
standing ¼ mile
17.4sec



BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)

38lb at start; **38lb** in constant use; **50lb** in severe use
Watersplash 44lb at first, **3** stops to recover

FUEL 4-star/98 octane min

Consumption — normal range

hard driving, heavy traffic	25½mpg
short journey, suburban	26mpg
motorway — 70mph cruising	32mpg
mixed roads — brisk, 50mph cruising	34mpg
quiet rural — 40mph cruising	38mpg
Typical mpg overall	32½mpg
Realistic tank range	260 miles/8gal

Consumption at steady speeds

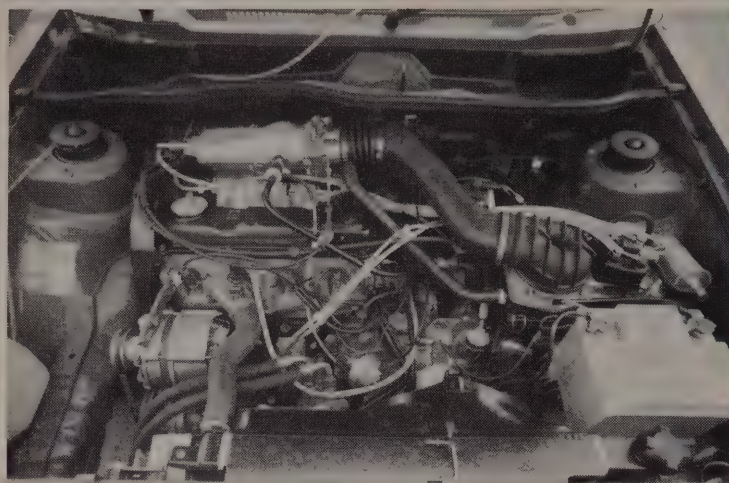
30mph	48½mpg
56mph	37mpg
70mph	32mpg
max mph	22½mpg

SAFETY CHECKS

steering: energy absorbing?	No	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	Yes
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	Yes	doors: crashproof?	Yes
convenient?	Yes	childproof?	Yes
rear belts: fitted?	No	petrol: spillproof?	Yes
		brakes: failsafe?	Yes
		load sensitive?	No

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
5256	1588	32½	110	9.5	20.7	95/55	12' 6¼"	40¾	38¾	3¾/33
5852	1588	34	104	11.1	19.7	92/50	12' 9"	41½	33	3¼/33
4310	1993	30½	109	11.5	20.6	100/55	14' 4¼"	41	36	3¼/34½
5053	1397	38	108	10.5	23.7	100/50	11' 8"	38	35¾	3¾/32½
5088	1602	36	94	13.6	25.3	100/55	13' 5"	42	33	3¼/33¼





squeeze in as much as possible. VW has a tendency to add more and more warning lamps, but the one we would most appreciate would be for low fuel level. The locking plastic filler cap is pleasant to use, however.

Underbonnet oil checks

HOW GOOD

At-a-glance

DRIVE's verdict on the VW Golf GTi, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●●●●●

FUEL ECONOMY

●●●●●●●●

HANDLING/STEERING

●●●●●●●●

COMFORT/REFINEMENT

●●●●●●

INTERIOR/BOOT SPACE

●●●●●●●●

PASSENGER AIDS

●●●●●●●●

DRIVER AIDS

●●●●●●

ACCIDENT/INJURY SAFEGUARDS

●●●●

RUST RESISTANCE

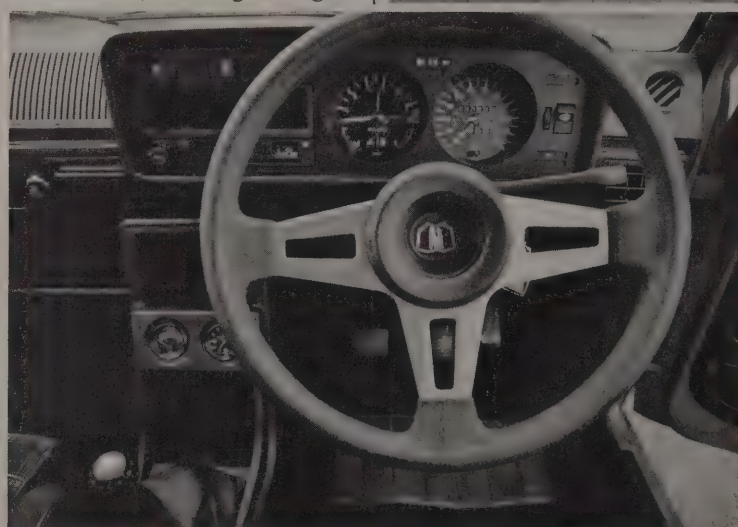
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RELIABILITY/EASE OF REPAIR

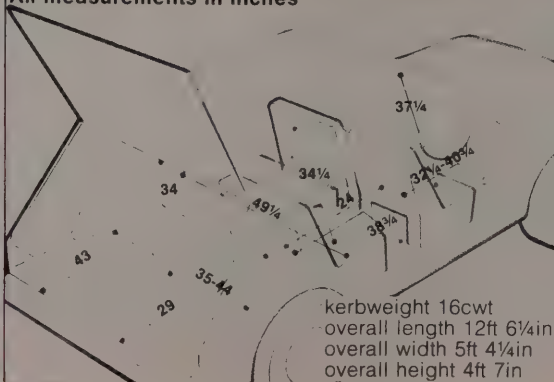
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revealed VW's usual, negligible oil consumption. It also revealed the complex pipes, pumps and filters of the Bosch fuel injection; though other routine maintenance items are still readily accessible — the filters, plugs and points especially so. The clutch still has to be adjusted manually, but it is the work of a minute or two. Valve adjustment with shims (due infrequently) and ignition timing demand special tools and meters, but, given these bits and pieces, any home mechanic can do his own servicing.

An encouraging point is that VW parts prices are not rising as fast as most; allowing for higher



All measurements in inches



VAT, they seem little changed from two years ago. Overall running costs are much the same as on a Renault 5 Gordini, and what the GTi loses in relative fuel costs, it makes up for in cheaper maintenance.

Major servicing occurs only every 10,000 miles, but DIY types won't get much help from the handbook. We think a car of this character deserves more service information — after all, it is aimed at enthusiasts. Tips on wheel-changing procedure and bulb replacement are all the help you get.

Bearing in mind its performance, the GTi's insurance rating could be worse, and depreciation, based on our experience of the Scirocco, should be equally favourable.

Verdict

A hotbed-up Golf with stiffened suspension, special trim and 'five on the floor' sounds marvellous for tearaways, but hardly the thing for family motorists. Yet the brilliance of this transformation is that the hairy GTi remains a svelte all-rounder. The ride may be harder around town and the exhaust louder on the motorway, but in other respects this Golf is as roomy and convenient as it always was.

And, when it has off-loaded the kids at dancing school or the washing machine at the repairer's, a squeeze of the magic throttle can transform this maid-of-all-work into a right royal carriage — and the fastest in its class. It won't turn into a pumpkin, either.

ENGINE

Type and size front-mounted, transverse 4-in-line, water-cooled; 79.5mm bore x 80mm stroke=1588cc; 5 main bearings; iron block/alloy head

Compression ratio 9.5:1

Valve gear overhead camshaft with bucket tappets (shim adjustment), driven by cogged belt

Fuel system Bosch K Jetronic continuous fuel injection; 9gal tank — no reserve

Max power (DIN-net) 110bhp at 6100rpm

Max torque (DIN-net) 103lb ft at 5000rpm

TRANSMISSION

Clutch diaphragm spring, single dry plate, cable operated; pedal load/travel: 27lb/5 1/2 in

Gearbox 5-speed (all synchromesh) and reverse; ratios: first 3.45:1, second 2.11:1, third 1.44:1, fourth 1.12:1, top 0.91:1, reverse 3.17:1

Final drive helical spur gears, 3.89:1 to front wheels

Mph per 1000rpm 18.5 in top gear

CHASSIS

Suspension — front: independent MacPherson damper/struts with integral coil springs, lower wishbones and anti-roll bar rear: torsion beam axle, interconnecting trailing arms, coil springs, anti-roll bar

Dampers Bilstein gas-filled all round

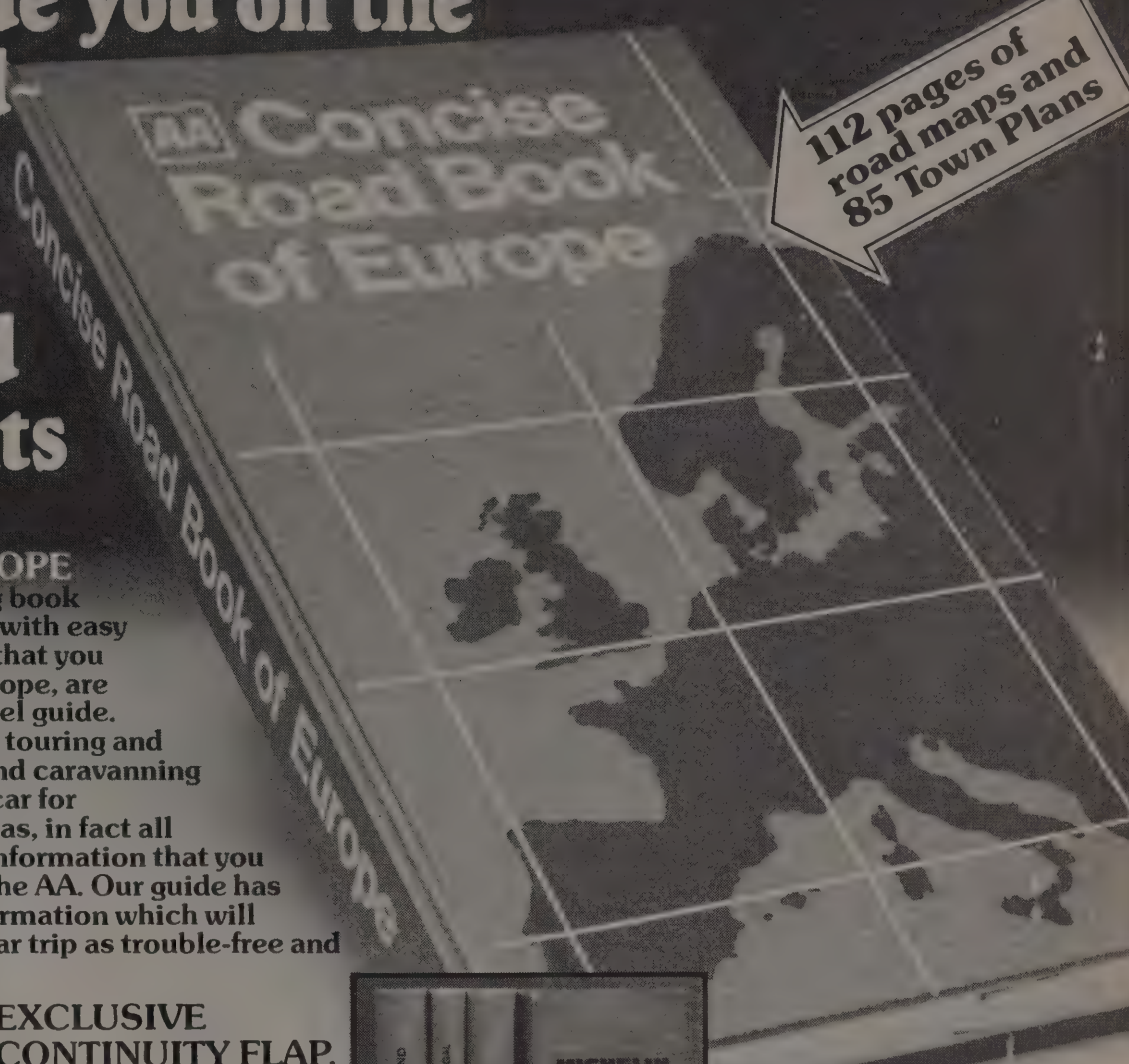
Steering rack and pinion, 3 3/4 turns between full locks; turning circles average 33ft between kerbs, with 61ft in response to one turn of the wheel

Wheels 5 1/2J alloy with 175/70HR13 radial-ply tyres (Continental TS on test car)

Brakes ventilated discs front, self-adjusting drums rear, with vacuum servo, line failure warning lamp

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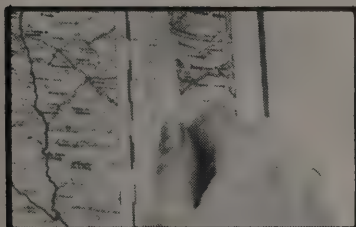
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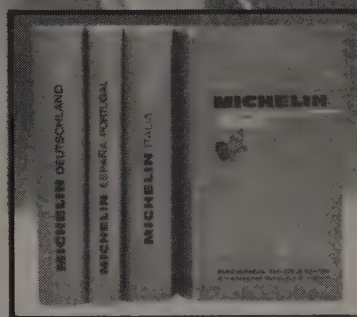
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IT'S TEMPTING logic: get everyone in town who wants to *buy* a secondhand car and every private owner who wants to *sell* a car, put them together under one roof and let them sort it out among themselves. No middlemen, no overheads to speak of, nobody to blame but yourself.

It's yet another idea from — yes — America. Every weekend, hundreds of Californians drive their cars on to the sun-soaked beaches, stick a price on the windscreen and wait for buyers.

Now the idea — minus the sun-soaked beaches — has been imported to Gt Britain by advertising man Roger Fairbrother, who has done a deal with carpark kings NCP: instead of standing empty each Sunday, multi-storey car parks up and down the country are filling with privately owned cars for sale — each seller paying Fairbrother's Car Markets £13 a day for space under cover. And, if you don't sell the first week, you can keep coming back at half-price until you do.

To date, there are seven Car Markets — in Manchester, Liverpool, Wolverhampton, Leicester, two in London, and, now, Luton's West Side carpark.

DRIVE arrived early at Luton, but 13

Lots of profit!

That's what one man hopes to make out of National Car Parks' Sunday spaces. But how fare the secondhand-car sellers who fill them?

would-be sellers were already lined up and queuing for the prime pitches. By 10am, when the barriers opened, the line had stretched to 50 cars.

Car Market's man on the spot, Vick Wojcik, was rubbing his hands. 'We'll have 33 car parks next year,' he said. 'Possibly small car-dealers do get upset when we move in, but they're upset by everything. The big boys don't mind. One big dealer actually sends car sellers to us, and refunds the £13 if a deal is done: it wants to sell cars, not buy them. This way, everybody's happy.'

'We had a Rolls-Royce here two weeks ago. I think it was sold — anyway, it didn't come back. The owner wouldn't put a price on the windscreen, but I think he was looking for £11,500. Another man

came four times with a BL Maxi — he *wouldn't* reduce his price. But he surprised us all by selling it. You have to be patient in here.


'Last week we got rid of six cars in the first 45 minutes, but, overall, we really don't know how many are sold. Out of the 70 cars here last week, we have 13 back today. That doesn't mean there were 57 sales, of course; some people just give up, some sell elsewhere.'

As music belted out of NCP's loud-speaker system, DRIVE went to work. While sellers talked, our AA engineer gave the cars a torchlight going-over.

Not all the sellers were amateurs. We looked at a Lancia Beta 1600 with an M-registration, 44,000 miles on the clock



USED-CAR PRICE GUIDE 100 of today's most-popul

	Road Test Report No	Date	engine cc	mean top mph	acceleration 0-60 in sec	overall mpg	insurance group	MODEL YEAR									
								Average secondhand price guide									
								1979	1978	1977	1976	1975	1974	1973	1972		
MAKE AND MODEL																	
Alfa Romeo Alfased 1.3ti	D5/78	3/4 78	1286	98	12.5	34.5	5	—*	2600	—	—	—	—	—	—	—	—
Audi 80L	389	6/76	1297	91	14.2	31.75	5	4110	3320*	2650	2105	1685	1315	9995	—	—	—
100LS	314/R1 139	1975	1761	100	12.7	29.25	5	4480*	3715	3095*	2230	1835	1535	1240	995	—	—
Austin Morris Mini 850	340	5/74	848	73	26.1	41.0	1	2035	1745	1500	1285	1090	925	785	655	—	—
Mini Clubman saloon	410	1/77	1098	82	18.2	40.5	1/2	2485	2130	1835	1570*	1340	1135	960	805	—	—
Allegro 1300 Mk2 4-dr	377	2/76	1275	85	19.0	37	2	2815	2330	1990	1685	—	—	—	—	—	—
Allegro 1500 estate	R1 127M	1975	1485	90	16.6	34.25	3	3170	2625	2240	1885*	1575	—	—	—	—	—
Maxi 1750 Mk2	263	1/72	1748	90	14.6	28.75	3	3270	2615	2230	1885	1585	1320	1090	895	—	—
Princess 1800HL	397	8/76	1798	96	14.2	29.75	4	3615	3320*	2405	2005	1685	—	—	—	—	—
Princess 2200HL	R1 129N	1975	2227	105	12.7	26.5	4	3840	3540*	2430	2030	1710	—	—	—	—	—
Marina Mk1 1800 4-dr	295	1/73	1798	96	12.8	31.5	3	3060*	2505	2150	1815*	1525	1280	1055	875	—	—
MG Midget Mk3	205	2/70	1275	93	14.8	29.1	4	2875	2425	2055	1735	1465*	1240	1035	870*	—	—
MGB Mk3	243	4/71	1798	105	11.8	23.9	6	3815	3370	2825	2380	1985	1660	1415	1190	—	—
BMW 520i	327	12/73	1990	111	9.7	29.0	S/R	—	—	5000	4110	3320	2650	2080	—	—	—
Chrysler/Talbot Sunbeam 1.6S	D6/78	3/4 78	1598	95	13.9	33.5	3	3405	2905	—	—	—	—	—	—	—	—
Avenger 1.3 2-dr	337	4/74	1295	93	19.0	30.5	2	—	2210	1895	1440	1210	1020*	855	—	—	—
Avenger 1.6GLS auto	339	5/74	1600	93	13.9	26.5	4	3250	2775	2370	1795	1515	1280	1060*	—	—	—
Alpine S	381	4/76	1442	97	14.3	32.0	5	3685	3110	2655	2230	—	—	—	—	—	—
Hunter GL 4-dr	234	1/71	1725	86.5	15.0	28.7	3	—	—	—	1745	1450	1200	980	795	—	—
Citroen 2CV6	R1 118	1975	602	66	37.2	44.0	1	1815	1465	1230	1035	880	—	—	—	—	—
Dyane 6	366	3/75	602	70	29.5	47.0	1	1940	1555	1300	1085	910	760	630	520	—	—
GS Club	384	5/76	1222	93	17.2	33.0	4	3095	2455	2005	1660	1365	1115	895	—	—	—
CX2000	416	5/77	1985	107	12.7	29.25	6/7	4210	3245	2700	2255	1860	—	—	—	—	—
Colt Lancer 1400GL 4-dr	371	11/76	1439	94	12.9	34.0	5	3090	2575	2150	1865	1440*	—	—	—	—	—
Datsun Cherry 100A 4-dr	284	8/72	988	83	17.7	41.25	3	—	—	—	1560	1325	1110	935	775	—	—
120Y coupé	336	3/74	1171	86	17.7	39.0	4	3055*	2400	2045	1740	1475	1235	—	—	—	—
Violet 140J	R1 132M	1975	1428	94	15.5	32.0	4	1990	2535	2990	1685	1410	1170	—	—	—	—
Bluebird 180B	316	8/73	1770	104	12.3	27.0	5	—	—	1925	1625	1370	1140	945	775	—	—
Fiat 126	334/R1 138	2/74	594	62	60.0	48.5	1	1845	1580	1355	1030	875	740	615	—	—	—
127 3-dr Special	R1 137M	1975	903	82	18.4	41.75	2	2640*	1965*	1810*	1415	1190*	—	—	—	—	—
128 4-dr	320	9/73	1116	86	15.5	34.0	3	—	1940	1655*	1405	1185	995	835	690	—	—
131 1600S	369	6/75	1585	94	13.6	32.0	5	3230	2990*	2330*	1965	1635	—	—	—	—	—
132 1800GLS	360	1/75	1756	102	12.0	25.0	6	—	—	—	1875	1535	1390*	985	—	—	—
Ford Fiesta 1000HC	417	4/77	957	83	18.4	41.0	1	2460	2165	1935	—	—	—	—	—	—	—
Escort 1100 Popular	R1 136M	1975	1097	77	23.6	35.0	1	2240	1915	1655	1420	1210	—	—	—	—	—
Escort 1300XL 4-dr	292	11/72	1297	88	16.0	31.0	2	3030	2605	2250	1935	1645*	1285	1095	930	—	—
Cortina Mk3 1600XL 4-dr	323	10/73	1593	95	15.1	27.0	3	—	—	—	1905	1615	1370	1150	975	—	—
Cortina 2000E estate	347/R1 116	1974	1993	99	12.3	27.5	5	—	—	—	2300	1955	—	—	—	—	—
Cortina Mk4 1600	404	12/76	1593	89	15.3	27.0	3	3160	2675	2300	—	—	—	—	—	—	—
Capri Mk2 1600GT	342	6/74	1593	102	12.4	27.5	5	4010	3430	2785*	2375	2000	1685	—	—	—	—
Capri 3000 Ghia auto	R1 114	1974	2994	113	9.9	22.0	6/7	5485	4745	3915*	3320	2785	2330	—	—	—	—
Granada 3000GXL auto	282	6/72	2994	108	11.7	21.0	6	7080	5670	3590*	2875	1985*	1510	1115	795	—	—
Honda Civic 1200 3-dr	362	3/75	1169	86	14.7	34.75	4	2670	2280	2030	1645*	1400	1170	—	—	—	—
Accord auto	420	5/77	1600	89	14.7	32.0	5/6	4010	3420	2895	—	—	—	—	—	—	—
Jag/Rover/Triumph Jaguar XJ6 4.2	227	10/70	4235	117	10.0	16.75	6/7	—*	7925	5325	4260	3345	2575*	1935	1635	—	—
Jaguar XJ12 (L) auto	305	4/73	5343	136	7.6	13.0	7	13120*	8815	6535	5100*	3445	2825	1860	—	—	—
Rover 2200SC	324	11/73	2205	104	12.2	24.0	4	—	—	3245	2700	2230	1810	—	—	—	—
Rover 3500 auto	330	2/74	3528	112	11.1	20.5	5	—	—	—	3195	2625	2130	1710	1365	—	—
Rover 3500SDi manl	428	10/77	3528	119	10.4	24.5	6	6190	5100	4185	3445	—	—	—	—	—	—
Range Rover	252	7/71	3528	101	13.2	18.0	5	10845	9505	8270	7330	6190	5225	4360	3615	—	—

and a 'non-negotiable' £1100 price-tag. The seller wouldn't tell us his name... which wasn't surprising: he admitted that he'd sold seven cars at the market in the last nine weeks, all while being registered as unemployed.

'I'm not a dealer,' he told us, 'but I know a car when I see one. Most people have enough common sense to buy a car. I bought a 1972 Ford Cortina 2000GT here for £425, and sold it the following week for £675 cash.'

'You see a few dealers here. They're suffering because big cars can drop £1000 below list-price. Last week, I sold a 1974 long-wheelbase Jaguar XJ6 with air conditioning for £2000.'

The Lancia's bodywork was a bit of a mess. Undaunted, our part-time dealer explained: 'It has been hit with a hammer, but I'll get it sprayed. I don't get complaints...'

'One or two small dealers buy cars at the nearby Leighton Buzzard car auction and bring them here without telling the VATman or the taxman,' he continued without a blush. 'You know — buy for £150, sell for £250. And look at that 1976 Mini Clubman there at £1650 — some people haven't got a clue how to sell a car.'

We looked, and found Mrs Grace

Barnes, of Luton, just about to make a sale. 'This engine has done only 2200 miles. The primary gear seized to the crankshaft — that was my one and only call to the AA. I paid for a reconditioned engine, and, two weeks later, the same thing happened. This time, BL did the repair free of charge.'

'I tried advertising the car in the local paper, but no one came. I've never been here before, but I'd come again: £13 is better than paying £41 for four nights' newspaper advertising...'

Next call was on an Opel Manta, vintage 1973, going for £1250. But owner David Hudson, 23, from Barton, near Luton, immediately confided: 'If you offer me £1000, I'll take it. I really need the money. I'm getting married and buying a house, so it's a case of having to sell.'

'I've fitted a cassette and radio, electric cooling fan, electronic ignition and a spoiler. To be honest, though, it needs two new tyres...'

'I've tried advertising in the local paper, but this is a specialist car appealing to a young bloke who wants a flash-looking motor. I suppose I'll get bored rigid standing here all day. But who knows?'

Norman Frost, of Hitchin, Herts, cer-

tainly did. He was selling a Volvo 164 automatic for £1350. 'No, I'm not selling to save petrol — I get 30mpg out of this. But it's too big for the wife. We've just bought a Volvo 343.'

'I've had no success at all with newspapers, and I think they're expensive. At £13 a day, these people are making a lot of money, but they are bringing the customers to me. Dealers are out: they expect you to give your car away. I've already sold my wife's DAF here; and I've already had half a dozen people showing interest in this one today.'

Newest car under the roof was certainly Andrew Davidson's Triumph Dolomite 1500, which looked as if it had been driven from the showroom down the road. Just six months old and priced at £2900, it looked a bargain; the price new is £4100. It was Andrew's wife's car, and she was getting a company car.

Andrew had driven from Bedford because two weeks' advertising in local papers hadn't produced a single phone call. The best offer a dealer had made was £2500.

'You feel you're doing something here,' he enthused, 'instead of just sitting by the phone all day. This is my second week, so today I got in for £6.50. It's fun

secondhand-car buys. Specifications compiled from our tests, the reference numbers of which are given

MAKE AND MODEL	Road Test Report No	Date	engine cc	mean top mph	acceleration 0-60 in sec	overall mpg	insurance group	MODEL YEAR Average secondhand price guide							
								1979	1978	1977	1976	1975	1974	1973	1972
Triumph Toledo 4-dr (Dolomite)	345RI 150	1977	1296	83	19.8	33.0	2/3	3020	2540	2140	1785*	1410	1180	985	815
Triumph Dolomite 1850	288	9/72	1854	100	11.4	28.25	4	3865	3120	2625	2405*	1785	1440	1140	895
Triumph 2000 Mk2	219	6/70	1998	95	15.0	26.0	4	—	—	2875	2380	2055*	1560	1290	1015
Triumph 2500TC	RI 112	1974	2458	101	11.5	27.0	5	—	—	2975	2430	2055*	1560	—	—
Triumph Spitfire 1500	376	2/76	1493	97	12.5	35.25	5	3215	2700	2280	1925	1620	—	—	—
Triumph Stag	273	3/72	2997	118	10.2	22.5	S/R	—	—	5125	4185	3420	2750	2205	1735
Triumph TR7	401	11/76	1998	108	10.2	28.75	6	4060	3320	2600	2155	—	—	—	—
Lada 1200	355	9/74	1198	91	15.0	33.25	3	1885	1595	1350	1130	945	775	—	—
Lancia Beta 2000	RI 171	1978	1995	107	11.2	26.5	6/7	3840	3120	2525	—	—	—	—	—
Mazda 1000 2-dr	343	6/74	985	78	20.0	33.5	3	—	—	1440	1220	1025	860	—	—
1300 hatchback	424/D4/78	7/78	1272	89	15.9	36.5	4	2690	2300	1960	—	—	—	—	—
Mercedes-Benz 280E auto	D/79	7/9	2746	120	9.4	21.0	7	—	10795	8915*	5350	4435	3715	3020	2480
Opel Kadett S estate 3-dr	338	5/74	1196	84	16.7	32.0	4	2970	2515	2320*	1800	1500	—	—	—
Ascona 1.9SR	302	3/75	1897	96	12.3	25.5	6	4000	3695*	2865*	2410*	1765	1460	1190	—
Rekord 4-dr	287	8/72	1897	101	12.0	26.0	4	—	—	2305	1960*	1610	1340	1090	945*
Peugeot 104 4-dr	325	11/73	954	84	17.3	36.5	3	2545	2140	1815*	1545	1310	1120	955	—
304	386	5/76	1290	92	16.7	35.5	3	—	2610	2205*	1835	1510	1265	1040	870
504GL	RI 140	1976	1971	99	13.7	27.75	5	4260*	3540	2925	2430	2005	1635	—	—
504 estate	275	4/72	1971	98.5	13.8	24.5	5	5275	4335	3590	2995	2500	2055	1710	1390
Reliant Robin	365	3/75	748	72	19.6	47.0	2	2295	2000	1745	1505*	1135	1005	—	—
Scimitar GTE	303	3/73	2994	118	9.1	21.25	7	6935*	5670	4730	3915	3220	2650	2130	1710
Renault 4TL	RI 121	1975	845	74	26.4	39.0	1	2330	1985	1665	1400	—	—	—	—
5TL	349	8/74	956	85	19.7	42.0	2	2650	2305	1935	1610	1365*	1140	945	—
5TS	370	11/75	1289	93	13.3	36.25	4	3070	2625	2205	1885	1585	—	—	—
6TL (1100)	364	3/75	1108	82	17.9	37.75	3	2650	2255	1885	1585	1315	1090*	895	745
12L	385	5/76	1289	82	18.1	34.5	3	—	—	1835*	1575	1325	1120	910	790
14TL	414	3/77	1218	89	14.8	36.5	4	2955	2480	2095	—	—	—	—	—
15GTL	D5/78	1978	1289	95	14.5	33.5	5	3470	2925	2380	1985	—	—	—	—
16TL	291	11/72	1565	93	15.1	29.5	4	3300	2800	2330	1935	1585	1290	1040	845
Rolls-Royce Silver Shadow	312	8/73	6750	115	10.0	14.25	S/R	40100	35250	28870	26700	23450	20950	18800	—
Saab 99GLE auto	393	7/76	1985	102	13.6	28.5	6	—	—	3740	3120	—	—	—	—
99L 2litre	311	6/73	1985	100	12.6	27.0	5	4705	3940	3220	2675	2205	1785	1390	—
Simca 1100GLS 5-dr	298	1/73	1118	85	16.5	33.25	3	—	2070*	1650*	1400	1175	985	815	670
Skoda S110LS 4-dr	285	1/73	1107	86	18.0	31.0	3	—	—	995	850	725	615	520	435
120LS Estelle	RI 169	1978	1174	86	17.9	33.0	3	2030	1725	1470	—	—	—	—	—
Toyota Corolla 30	399	9/76	1166	87	15.9	33.5	4	2715	2300	2120	1645	1370	—	—	—
Corona 2000 Mk2 2-dr	290	1/73	1968	100	12.1	25.0	6	—	—	2040	1705	1430	1165	915	775
Celica 2000ST coupé	423	8/77	1968	101	12.7	30.0	6/7	3790	3220	2750	2330	—	—	—	—
Vauxhall Chevette L 3-dr	396/RI 123	1975	1256	90	15.3	37.25	2	2930*	2515	2150	1920*	1555	—	—	—
Viva HCSL 4-dr	264	1/72	1256	84	17.8	34.0	2	—	—	1725*	1450	1190	985	795	—
Cavalier 1600L	382	4/76	1584	96	12.6	29.5	4	3400	2895	2480	2100	—	—	—	—
Victor 1800 4-dr	326	11/73	1759	93	15.7	25.0	3	—	2600	2180	1910*	1490	1190	945	720
Victor 2300SL estate	315	8/73	2279	98	12.4	26.0	4	—	2900	2430	2105*	1635	1315*	1040	795
VW Polo L	408	1/77	895	81	19.0	39.5	3	2890	2545	2180	1865	—	—	—	—
Golf 1100 5-dr	411	2/77	1093	87	16.8	35.25	4	3315	2905	2485	2125	1815	—	—	—
1200 Beetle	353	8/74	1192	72	27.5	38.5	2	—	—	2485	2030*	1755	1505	1300	1110
Scirocco TS	411/RI 144	1976	1588	103	11.4	34.75	7	4805	4110	3470*	2925	2455	—	—	—
Volvo 343DL	415	3/77	1397	88	17.2	29.75	5	3665	3095	2625	—	—	—	—	—
245DL estate	368	5/75	2127	96	13.8	27.1	6	5895	5100	4505	3815	3245	—	—	—
264DL	395	8/76	2664	98	12.3	23.0	7	—	—	3515	2975	2550	—	—	—

...talking to all the buyers and sellers, and I enjoy the challenge of selling.'

After four hours in the carpark, we noticed that his enthusiasm was waning visibly . . .

Sitting all day with a £300, rusting Fiat 124 was losing its attraction for Danny Brosnan, too. 'I expected to find a lot more people buying,' he moaned. 'I suppose it's the time of year. No one has asked me about the car, and only a few have looked at it. I heard that three cars have been sold in four hours. I don't think that's good, do you?'

At 3pm, the wheeling and dealing was over. On our way out, we heard someone mutter: 'I'll put a match under it and claim the insurance!'

Trying to sell your car can get you like that . . .

Our man with the torch, AA engineer Lawrence Pearce, starts with the bad news: 'There's a good chance of buying a "rogue" at these sales if you don't know your cars — at least, judging from what I've seen at Luton. And, of course, you face all the risks associated with a private sale — no guarantees, and so on.

'There's never much light inside a carpark, so the would-be buyer should insist on the car being taken outside, to see it properly.

'On the plus side, prices at Luton generally were below garage retail, and there were good prospects for haggling. There was a reasonable collection of cars under one roof, and buyers had every opportunity to road test, which is more than you can do at a car auction.'

Pearce comments on a sample collection that caught his eye . . . (Book prices are from *Parker's Car Price Guide*, on sale at the market and everyone's 'bible' on the day.)

Triumph Dolomite 1500 1979 (T) 9000 miles, £2900ono, book-price £2700-£3195.

'Car appears to be in "as new" condition, even down to the almost unworn SP Sports tyres. Radio fitted. Price is at least a sensible point to start haggling.'

Ford Escort 1100 Mk 1 1975 (N) 14,000 miles, £950ono, book-price £935-£1160.

'Mileage reading very doubtful. Interior

very tatty; exterior similar — lots of obvious DIY paint repairs. Price more a reflection of high asking-price for used Escorts rather than the true value of this particular car.'

Vauxhall Cavalier 1300L 1978 (S) 39,000 miles, £1950, book-price £2170-£2730.

'Interior as new; exterior superficially excellent, with evidence of repair-work on rear wing. Price reflects high mileage; probably a fairly sound buy.'

Triumph 2000 1973 (L) 54,000 miles, £1150, book-price £770-£1085.

'Looks immaculate inside and out; no sign of corrosion on exterior panels. Mileage credible. Minor scratches on boot, and paintwork has faded slightly. Might be a sound buy if mechanical condition matches appearance, even at the high price asked.'

Opel Manta SR 1900 1973 (M) 70,000 miles, £1250ono, book-price £1020-£1410.

'Interior tidy but well-worn. Bodywork free from noticeable rust, but a few repairs have been carried out — not bad for a seven-year-old. Matt-black bonnet and blended-in spoiler likely to detract from its value, if anything.'

Volvo 164 automatic 1971 (K) 95,000 miles, £1350ono, book-price £595-1030.

'Interior tidy, no obvious defects. Some rust bubbling round top of front wings; more serious round rear wheelarches. Some panels resprayed — fairly badly. General condition reflects age; asking-price seems unrealistic.'

Ford Capri 1600XL 1972 (L) 54,000 miles, £1050ono, book-price £870-£1095.

'Interior tidy, tending to confirm the low recorded mileage. No sign of rust on front wings — unusual in this age of car. Repaired rear on both sides. Asking-price unrealistic.'

Mazda 818 estate 1977 (S) 30,000 miles, £1580, book-price £1620-£2130.

'Interior OK; body excellent, apart from accident damage to rear offside — repaired badly. Original Bridgestone tyres badly worn at front. Low price offsets mainly trivial defects.'

Renault 16TY 1978 (S) 36,000 miles, £2995, book-price £2775-£3475.

'Interior spotless; paintwork speckled, but might remove; evidence of respraying on many panels, particularly nearside —

may have been damaged extensively. Costly for mileage and dubious history.'

Fiat 124 1970 (J) 73,000 miles, £300ono, book-price £160-£415.

'Very shabby inside and out — a liability at any price. Snazzy black paint on lower bodywork disguises most of the rust . . .'

Mini Clubman estate 1100 1976 (P) 27,000 miles, £1650, book-price £1385-£1710.

'Very clean inside and out; no dents or damaged panels, and only slight corrosion around external body seams. A sound car, but asking-price unrealistic.'

First priority when buying cars 'off the street', so to speak, is to establish that the seller is the legal owner. Try to assess him or her: a householder, whom you can contact at work, is most likely to be conducting an honest sale. Ask to see the receipted invoice of purchase and servicing bills, check the registration document, find out the car's history by contacting previous owner(s).

If the car you buy is the subject of a hire-purchase agreement, you should be able to reject any subsequent claims by the finance company *provided that you have no prior knowledge of the agreement*. If the car is stolen, the police will impound it and return it to the rightful owner. *Chances are, you will have to stand the loss*.

If the seller refuses to part with the car until your cheque is cleared, make sure, when you collect it, that no parts or accessories have been removed. If they have been, and the seller is unhelpful . . . all you can do is sue him.

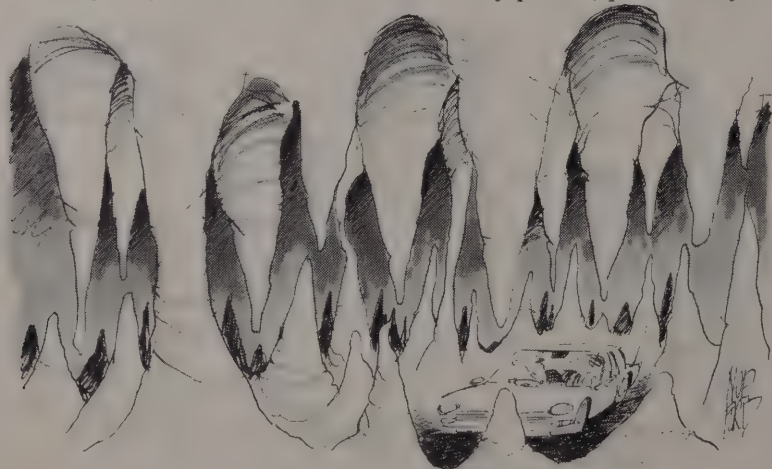
Bedfordshire's Trading Standards office judged everything at Luton as above-board: 'We have no evidence that car dealers are there,' said officer Ken Phillips. 'Clearly, however, at least one seller in your story is a dealer, and another could be infringing the Sale of Goods Act by not showing an odometer disclaimer. I'll ask my staff to look again.'

A final word on road testing: many car owners secure insurance discounts by naming the driver or drivers. Clearly, such a policy would not stretch to cover a potential buyer road testing the vehicle. Most comprehensive policies, however, cover the policyholder to drive other people's cars — *but only third-party*.

So if, as a buyer, you crash while driving a seller's car on your own policy, chances are that you, and not an insurance company, will be stuck with the bill.

Sunday car markets don't please the Motor Agents Association: 'We are concerned about their spread for a number of reasons,' says press officer Philip Stein. 'Anyone who buys a car from one of these places is in no way protected by consumer legislation, which opens the door even wider to the flogging of cars that might be, shall we say, less than perfect. And, even if they are perfect, in our view it's unfair competition — Sunday opening without overheads.'

ROBERT OXFORD



'If there isn't an underground carpark at Cheddär, we could be in trouble'

Injection of enthusiasm

The fastest-growing European car maker of the 1970s was distinguished as one of the oldest and most conservative as well.

Ten years ago, Peugeot was a sound but modest family business making sound and modest saloons that were better known in France's former colonies than in Britain. Then came the 504 — a 2½million-seller that made the company's fortune and financed its rescue of Citroen and Chrysler Europe, which was renamed Talbot. With such a pedigree, Peugeot's new 505 model must be more than just another 2litre saloon.

As is Peugeot's policy, the new model will sell alongside the old for some time to come, but will also become a serious rival to VW/Audi's 100, Renault's 20 and Volvo's 244. We sampled the top-of-the-range, fuel-injected,

Peugeot 505 STI

Price £23,995 On the road £28,000

S-trimmed STI to see if this could be the stuff that 1980's takeovers are made of.

How it goes

French car makers know all about marriages of convenience. While they fight each other in the market place, their *entente cordial* behind the factory gates, unobtrusively sharing components, helps keep costs down. So it's no surprise that the new 505's more-powerful STI engine option is the same all-alloy 1995cc unit first seen more than two years ago in the Renault 20TS. (The 504GL's 1971cc iron block/alloy head engine is retained for the 505's GR and SR versions.) It's available only with fuel injection,

yet it delivers a modest 110bhp, and some French rivals do just as well with one carburettor.

The new engine's advantages do not include better performance. Our test car was more than 1sec slower at accelerating from 30-70mph through the gears than the 504TI we tested five years ago, and its top speed is down 2mph, too.

Comparisons of one-gear times are confused by the STI's use of a five-speed gearbox. While its fourth gear is a lower ratio than the old box's top, the STI doesn't feel a good low-speed puller: you can see from our table how much slower fourth's 20-40mph time is compared to its 30-50mph spurt.

Brisk gear-stick stirring cer-

tainly pays off when one wants to overtake smartly, but the new engine emerges as no more than an average performer in its class.

Fortunately, the gear change is a slick operator, with no loss of precision from the additional gear, and even its oddly shaped knob feels comfortable. Our only complaint concerned fifth's whine, which is obtrusive around 45mph, but fades thereafter. For UK models, an hydraulic clutch is fitted, and its heavy pedal needs to be depressed fully to disengage properly.

DRIVE maintained that the Peugeot 504's ride and handling was the next best to a BMW's — and at a considerable cash discount. So we were even more pleased to see that the 505 cleverly corrects the 504's few faults without spoiling the good work. On paper, the 'spec' reads just



like a BMW 520's or a Peugeot 604's suspension — and several of the 604's components have been used in the new model, including power-assisted steering.

The result is impressive. With steering movement reduced to 3¼ turns for a compact turning circle of less than 35ft, the 505 responds well to the helm — and without the feeling that the power assistance is trying to take over. Combined with impeccable cornering and grippy roadholding, the STI is as safe to hustle as it is fun. Some body roll occurs, but not in alarming proportions, and the contoured seats and sensible door armrests prevent occupants from being aware of it. While cornering quickly, the only disadvantage compared with the 504 is the absence of a warning lightening of steering effort as the front tyres begin to lose their grip. On the straight, however, the STI's stability is impeccable: even on a windy motorway the car stays on course naturally.

Owners of the small 305 will recognise much of the instrumentation, and the STI's layout can only be criticised for what is missing: no low fuel-level telltale, too few minor gauges, and two opposing turn signal arrows that blinked in unison . . . The speedometer sits where it should, right in the middle of the display, and the STI package adds a smaller tachometer alongside. We would have traded this for a more accurate speedometer — 5mph fast at 70mph on our car.

At night, the deeply shrouded instrument cluster and the bank of controls on the centre console are all backlit in red by fibre optics, enabling the smallest push switch to be located without trouble. A pair of stalks control all lighting and wash/wipe functions very conveniently.

Peugeot's driving seat no longer eases you forward as you raise its adjuster bar, but its all-foam construction is soft and luxurious — especially when clad in the distinguished tweed used in the STI. Legroom is fairly generous and lateral location excellent, but we faulted the seat's back support: testers complained after long drives that it is too soggy.

How comfortable

Making a saloon that handles well and also cossets its passengers is a skill that few have mastered. Peugeot has renewed its membership of this special club with the 505, for it is one of the smoothest, unfussiest saloons you can buy at any price. British buyers will have to take our word for it, for we have few roads that are bad enough to show off the 505's magic-carpet ride.

Peugeot takes pains to soothe drivers' ears, too. Apart from

some rustling noises at idle and when pulling away in the lower gears, Peugeot's installation of this engine is quieter than Renault's in the 20. Indeed, cruising at 55-65mph the STI sounds as if it is coasting along with the engine off, so quiet and restrained is its progress. Wind- and road-noise suppression is beyond criticism, too.

Perfectionists might not like the occasional thump from the wheels when travelling around town — below 40mph, the springing hasn't got into its stride fully — but in general the 505 is undemanding in traffic, with no undue effort required for any control except the clutch.

Peugeot's claim that the 505 is designed for five adults and their luggage is justified by the boot's size and the width of the interior, but the shape of the rear seat means that only four can travel in complete comfort. Rear legroom is sufficient for all except the very tall, and remains reasonable even when the front seats are moved right back.

The opened boot is illuminated even when the main lights are off, its flat floor is covered with a sensible rubber mat, and the inside of its wings are protected against sliding loads. The load sill is unhelpfully high, but the spare wheel is easily reached in its cradle below.

Peugeot has revised the 505's heating and ventilation to produce a system that is now effective, versatile and quiet — the uncannily silent motors for both heater fan and electric sunroof

HOW GOOD

At-a-glance

DRIVE's verdict on the Peugeot 505STI taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●

FUEL ECONOMY

●●●●●●●

HANDLING/STEERING

●●●●●●●●

COMFORT/REFINEMENT

●●●●●●●●●

INTERIOR/BOOT SPACE

●●●●●●

PASSENGER AIDS

●●●●●●●

DRIVER AIDS

●●●●●●●●●

ACCIDENT/INJURY SAFEGUARDS

●●●●●●●●

RUST RESISTANCE

●●●●●●●●●

RELIABILITY/EASE OF REPAIR

●●●●●●●●

work far from the car interior. The only problem we encountered was that, when the sunroof was open, cold air doused the footwells from the radio's speaker grilles! Even rear occupants get some warmth at foot level, thanks to special outlets on the centre tunnel.

How strong

Despite unanimous approval for the tweed upholstery and good finish of the interior, our testers noted some cost-cutting of corners compared to the 504. The older car's kickproof doors and sills, with double weatherstrips, are no longer used, so legs can get muddied and paintwork chipped in previously unheard-of ways. The new, permanently fixed carpets must be vacuumed in situ, whereas the almost indestructible cord ones in the 504 could be shaken clean. Outside, plastic for bumpers and wheeltrims replaces stainless steel, but aluminium brightwork that could promote paint blisters is still used around side windows.

Under the car, however, the standard of construction and rust protection is better than ever. Zinc-rich primer paint on vulnerable areas, and special sealant over welds, are coated with pvc and wax that covers the entire underbody and all box sections. It's the best anti-rust job we have yet seen on a Peugeot.

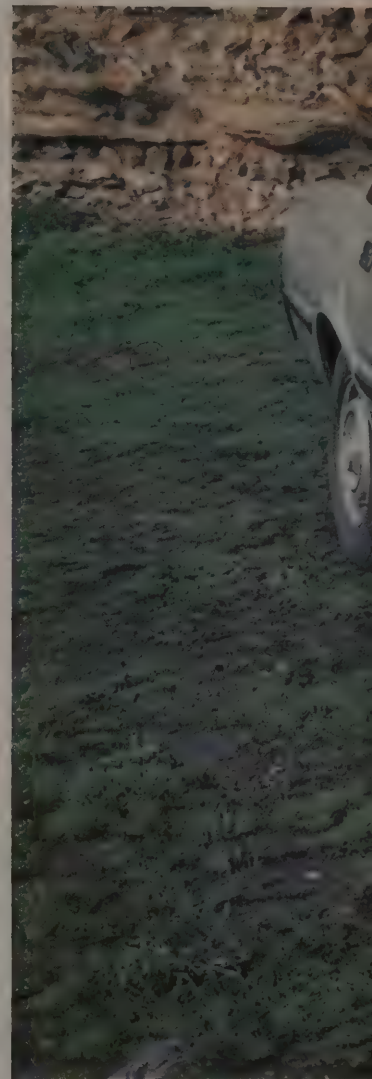
Opening the bonnet on its crude prop — another cost-saving — reveals fuel-injection plumbing sprawling over all and obliterating such everyday items as the dipstick and distributor; perhaps that's why contactless ignition is used in the STI. More-welcome details are the earthing tags on the front suspension struts (to prevent radio interference), good fuse protection, and a sensible jacking design that does not require much grovelling.

We approve of the retention of a few grease nipples, too, but Peugeot's reluctance to provide a transparent coolant reservoir is reactionary — a 505 owner still has to remove the rad cap and peer in. Similarly, the petrol cap remains that non-locking, ultra-stiff bayonet type that seems to defeat most forecourt attendants.

How safe

Despite the lack of clues relayed by the power steering about the state of the front wheels' grip, the 505 remains poised and unruffled when it begins to slide. It's a true friend in a tight corner, for we could safely tighten our course through a bend by cutting the power with no fear of the tail swing that can follow such rash driving on earlier 504s.

We are less happy about the new brakes. Unlike the 1971cc



PEUGEOT 505STI

Parts/repairs (inc VAT)
clutch £67.29 (fitting 5.5hr)
exhaust £111.60 (2.25hr)
headlamp unit £44.61 (0.5hr)
front bumper £93.31 (0.5hr)
laminated windscreen £49.83 (2hr)

oil filter (no points) £3.28 (0.25hr)
major service 10,000 miles (4hr)

Insurance group 6
Warranty 12 months/unlimited (some restrictive clauses)

Standing costs per year/12,000 miles
Loss of value £616
Capital interest £362
New-cost inflation £617
Total standing costs=£1595 (13.30p per mile)

Running costs
Petrol (£1.20/gal) £514
Insurance (av) £240
Road tax, AA sub £72
Servicing/replacements £239
Total running costs=£10.65 (8.88p per mile)
Total ownership £2660 (22.17p per mile)

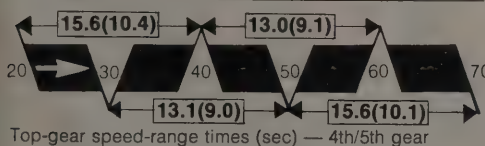
HOW IT COMPARES

Peugeot 505STI
Audi 100 GLS
Vauxhall Carlton 2000
Volvo 244GL
Renault 20TS (4 speed)



ACCELERATION Times in sec

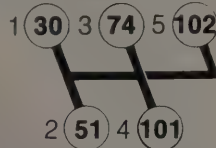
MPH	THROUGH GEARS	IN TOP GEAR	IN 4th GEAR
0-30	3.6		
30-40	2.3	7.0	4.7
30-50	4.8	13.1	9.0
30-60	8.7	20.0	13.8
30-70	13.2	28.7	19.1



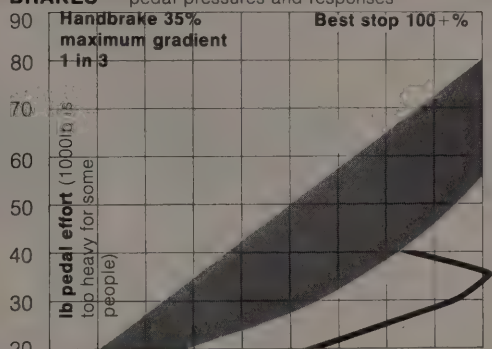
Top-gear speed-range times (sec) — 4th/5th gear

TOP SPEEDS

Max engine speed used 6000rpm;
max in top 4800rpm;
max in 4th 5800rpm;
standing ¼ mile
18.7 sec



BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop
(ideal car would show no variation)
23lb at start; **16lb** in constant use; **30lb** in severe use
Watersplash immediate recovery

FUEL 4-star/96 octane min

Consumption — normal range	
short journey, suburban	21mpg
hard driving, heavy traffic	23½mpg
mixed roads — brisk, 50mph cruising	28mpg
motorway — 70mph cruising	28½mpg
quiet rural — 40mph cruising	32mpg
Typical mpg overall	28mpg
Realistic tank range	315 miles/11¼gal

Consumption at steady speeds

30mph	44mpg
56mph	36mpg
70mph	28½mpg
max mph	17mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	No
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	Yes	doors: crashproof?	Yes
convenient?	Yes	childproof?	Yes
rear belts: fitted?	No	petrol: spillproof?	Yes
		brakes: failsafe?	Yes
		load sensitive?	Yes

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
7200	1995	28	102	12.3	9.0 (4th)	100/35	15' 0"	40½	40	3¼/34¾
7565	2144	27	108	11.3	10.7	96/55	15' 4½"	42½	42	4¼/35¼
5807	1979	28	104	12.2	11.2	100/60	15' 7"	41	41½	4½/34
7530	2127	27½	97	13.0	10.1	98/35	16' 1"	41	42½	4¼/32
6586	1995	29½	104	12.8	10.1	98/50	14' 10"	42½	40½	3¼/37½

4th=4th gear

version, the dearer STI has discs all round, ventilated at the front, and a bigger servo, too. Fade resistant and easy to use in normal check braking, they could prove too powerful for a safe crash-stop. The delicacy needed to attain our excellent best stop is more than most people could measure in a panic — apply just 5lb more, and you could finish up in a skid. Some lessening of the servo's insistence could make this a fine system.

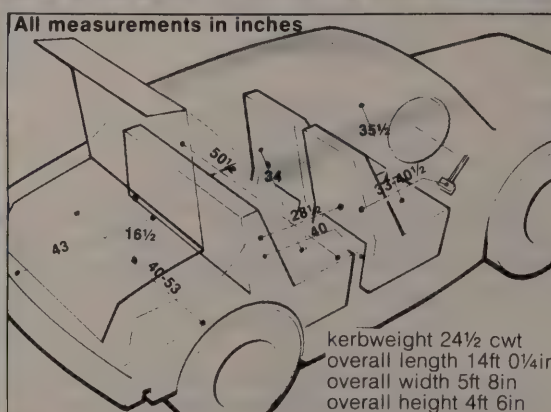
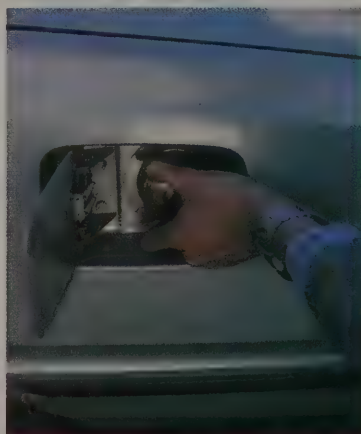
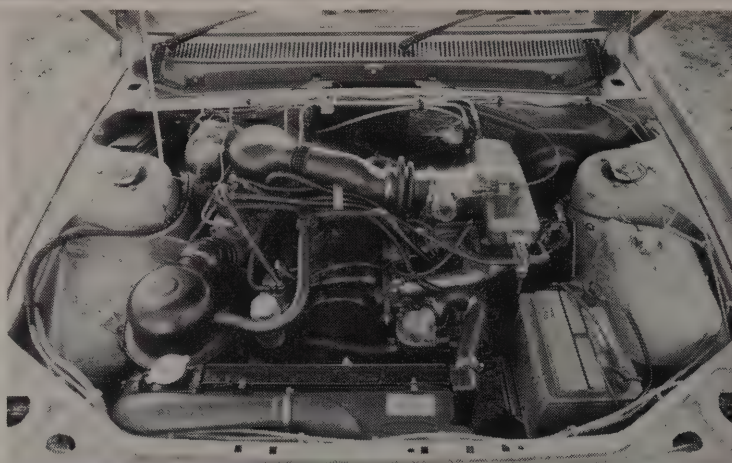
Most of the 505's passive safety measures are impressive: the fascia padding, especially at knee level, is carefully done, and the roof is well protected, too, despite the complication of a sunroof. The front seatbelts are convenient to wear and unobtrusive, with no exposed reels on view. Yet there's no reinforcement in the back of the front seats to guard against unrestrained rear passengers flying into those in front, and no rear seatbelts are provided either. Outside, the fuel tank remains in a vulnerable position, just behind the rear bumper.

How much

The four-speed 504 delivered an overall 26½mpg in TI form and 27½mpg as a GL, so our consumption table shows that the five-speed 505's economy is not markedly better. Certainly, we noticed the benefit of the over-driven fifth gear on long, fast trips, but overall, the 505 is only class-average — and not as good as the mpg of the similarly engined Renault 20TS.

The Peugeot's modest tank capacity, unchanged from the 504, is redeemed by the ease with which it can be filled to the brim — hence its good driving range. Oil consumption was negligible in our 1000-mile test, so one shouldn't have to worry about groping for the awkward dipstick too frequently.

Routine maintenance has been extended to 5000 miles for an oil and grease, and 10,000 miles for a full service. While spares are distinctly costly, so much of the 505's running gear is borrowed from the reliable 504 that maintenance costs should be acceptable.



ENGINE

Type and size front-mounted 4-in-line, inclined at 12°, water-cooled; 88mm bore x 82mm stroke = 1995cc; 5 main bearings; all alloy construction
Compression ratio 9.2:1
Valve gear overhead camshaft actuating rockers, driven by cogged belt
Fuel system Bosch K Jetronic continuous flow fuel injection; 12¼gal tank — no reserve
Max power (DIN-net) 110bhp at 5250rpm
Max torque (DIN-net) 126lb ft at 4000rpm

TRANSMISSION

Clutch 8½in diaphragm spring, single dry plate, hydraulically operated; pedal load/travel: 32lb/6¼in
Gearbox 5-speed (all synchromesh) and reverse; ratios: first 3.45:1, second 2.06:1, third 1.41:1, fourth 1:1, top 0.82:1, reverse 3.49:1
Final drive hypoid bevel, 4.11:1 to rear wheels
Mph per 1000rpm 21.35 in top gear; 17.5 in fourth gear

CHASSIS

Suspension — front: independent MacPherson damper/struts, coil springs, lower wishbones, anti-roll bar
rear: independent semi-trailing arms, coil springs, anti-roll bar
Dampers telescopic all round
Steering powered rack and pinion, 3¼ turns between full locks; turning circles average 34¼ft between kerbs, with 58½ft in response to one turn of the wheel
Wheels 5J steel with 175HR14 radial-ply tyres (Michelin XAS on test car)
Brakes discs all round (ventilated at front) with vacuum servo

After all, the 'new' engine has already been proved in the Renault for a couple of years! Owners should, however, read the warranty conditions carefully, as one stipulation is that all servicing must be done by a Peugeot agent. Despite the handbook's mention of six months' cover, UK Peugeots have one year's warranty.

If the 504's record is anything to go by, depreciation should be favourable, for it has consistently fared better than all except the Saab 99, thanks to its keen pricing and straightforward mechanical layout.

Verdict

The AA's testers tipped the 504 as a winner some 10 years ago, when it was an unknown contender in the family-saloon stakes. It deserved backing because, unlike some of its rivals, it was much more pleasant to drive than its solid, respectable image suggested.

The new 505 should therefore be an even safer bet, combining the same Peugeot driver-appeal with more options and glamour — and it's built even better than before. Only the visible signs of cost-cutting and the inaccessible STI engine could deter some punters from parting with their money.

Those who do will discover that the 505STI drives so smoothly, corners so confidently and comfortably so completely that they'll wonder why anyone should pay any more for a saloon. And we'd agree with them.

Motor insurance.

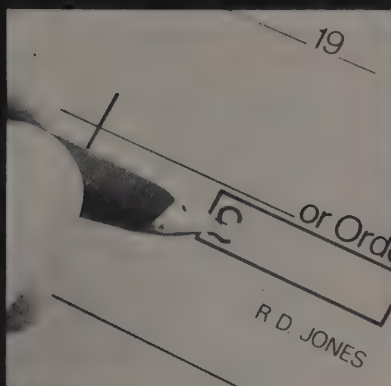
Before the cheque

Is your present motor insurance giving you all the cover you want . . . dependably? All the discounts you could qualify for? At the best value on the market?

It could pay you to find out now . . . before your next premium comes due. You can obtain a check on your premium and cover by using the AA's computer service. The service is free and sifts through a whole range of policies arranged with leading insurance companies and at Lloyds, to select the quotation that suits you best. And you can be sure with AA buying power and expertise, you can have the best cover at minimum cost.

Check some of the discounts you might be eligible for . . . A 20% discount if driving is restricted to husband and wife. A 10% discount if you are over 60, or if your car is over 6 years old. A no-claims discount up to 65% perhaps . . . or substantial occupational savings. You can pay by instalments too . . . in fact as a motoring organisation we've tried to plan insurance to suit *you* in every way. So put that pen to good use . . . and freepost for the AA quote now.

...check!

AA**Insurance
Services**

Clip out this form and post it in an **unstamped envelope** addressed to:
AA Insurance Services Ltd.,
FREEPOST,
Newcastle on Tyne NE99 2RP.

Please use BLOCK CAPITALS

Mr/Mrs/Miss initials surname
Membership No. (if applicable)
Address

 Post Code
Telephone No. Day: Eve:
Occupation(s) Employer's Business

FOR OFFICE
USE ONLY

About your car

Make and model of car including details of modifications
Reg. No.
Engine cc Year of manufacture 19 Value £

When do you use your car? *Please delete the word that does not apply.

In addition to private use, will the car be used for:
(a) Driving to work on three or more days a week? NO/YES*
If YES, name city, town or suburb where you work
(b) Business use by yourself only? NO/YES*
(c) Business use by another person? NO/YES*
(d) Commercial travelling? NO/YES*

What cover do you want?

Please tick type of cover you require:
Comprehensive ☐ Third Party Fire & Theft ☐ Third Party Only ☐
If you wish to reduce the premium by bearing the cost of any damage to your car indicate (✓) the appropriate amount:
up to £25 ☐ up to £50 ☐ up to £100 ☐
Please indicate (✓) who will drive the vehicle:
(a) Yourself only ☐
(b) Yourself and wife/husband only ☐
(c) Yourself and one named driver only ☐
(d) Any licensed driver ☐
In the case of (b) and (c) please give details of other driver or in the case of (d) of youngest known driver:
Age yrs.
Length full UK Driving Licence held yrs.

When would you like cover to start? day month year

(Indicate when your present insurance ends).
On that date:
(a) How old will you be? yrs.
(b) How long will you have held a full UK driving licence? yrs.
(c) Have you been resident in the UK for 3 or more years? NO/YES*
(d) How many years No Claims Discount will you be claiming in your own right? yrs.
* Have you or any other person who will drive the car:
(a) Been convicted or have pending prosecutions for a motoring offence? NO/YES*
(b) Been involved in any accident or loss regardless of blame in the last five years? NO/YES*
(c) Suffer from any physical disability or infirmity e.g. heart disease etc? NO/YES*

If you answered YES to (a), (b), or (c), please give details on a separate sheet.

Registered Office: Fanum House Basingstoke Hants RG21 2EA Regd. No. 912191 England.

THE SECONDHAND-CAR buyer who is looking for a two-year-old Cortina is unlikely to restrict his search to Ford dealers . . . not when he can find used Fords at the Datsun dealer down the road, or even Datsuns on the Ford forecourt. But the first lesson for secondhand buyers is the obvious one that motorcycles aren't cars. The rule for the bike man is: first find your dealer, *then* see what he has to offer.

A search through the ads in the local paper will reveal most of the good motorcycle shops close to you. They can be divided into four types: the big, modern multi-agency establishment; the smaller, one-make specialist; the bicycle-and-moped shop; and the secondhand dealer. Naturally enough, there's a great overlap of interests between all of them.

Generally, the best choice of 'nearly new' secondhand bikes can be found in the multi-agency, which will provide a good after-sales and spares service. The one-make specialist probably will provide a superior service all round for his chosen make of machine — but *only* his chosen make. If you are an inexpert non-enthusiast in the market for a moped, 'stepthru' or mini-motorbike, the local bicycle-and-moped shop will almost certainly give more-sympathetic service. If it's a cheap bargain you want, try your luck with the secondhand trader.

The secondhand motorcycle business has undergone enormous changes in the past few years, partly as a reflection of the new-bike business, now dominated by the Japanese, and partly as a result of something more downbeat — consumer-protection laws. The Sale of Goods Act did to bikes what the Rent Act did to property: both laws improved the quality of what was available, but in doing so knocked a lot of lower-priced bargains out of the market.

In the case of motorcycles, reputable dealers are now frequently shy of selling large numbers of cheap, fundamentally sound old bikes for fear of legal retribution from dissatisfied customers.

The bike business is by no means blameless in the current state of affairs, but it has reacted, and a previously unimaginable 'them-and-us' attitude now exists. In consequence, 'nearly new' machines cost more than ever because of

the warranty premium — *paid, in the end, by the buyer* — on every machine sold. Worn and old machines are sold off to the trade, or broken for spares.

Anyway, once your budget has determined which type of dealer to patronise, be honest with him: admit your budget and your innocence. He'll respect that, but will see through bluff immediately. If you don't have a motorcycling friend to check over your proposed machine, then use this simple system yourself:

Lift the seat and remove the side panels to check for frame repairs and welds, etc. Switch on all the electrics, make sure everything works properly, and *leave them on*

Ask to start the engine, or have it started for you, listening for noisy taps and knocks and ensuring that, once warm, it idles reliably

Ask for a demonstration pillion ride, and feel for vibration — there should be nothing but a faint 'hum'. Watch as the bike is emergency-halted on its front brake alone — it should do this from 30mph within 40ft at most

Look for smoke from the exhaust during initial acceleration, or when the throttle is opened gradually, after a few minutes' idling; most two-strokes will emit a slight smoke haze, but four-strokes shouldn't smoke at all

Look for oil leaks — an as-new, spotlessly clean underside can suggest a bad one recently cleaned off

'Pump' the suspension at both ends to make sure that it works smoothly; then feel the hand and foot controls — they should all operate lightly and smoothly, especially the clutch

Check frame alignment by squinting along the wheels to see that they are in line, or by sloshing water over the bike's tyres, then pushing it along a straight line such as a pavement crack: you should see only one wheeltrack

Check, too, that the spares you are likely to need in a hurry are stocked — spare keys, ignition parts, control cables, filters, lamp units and bulbs.

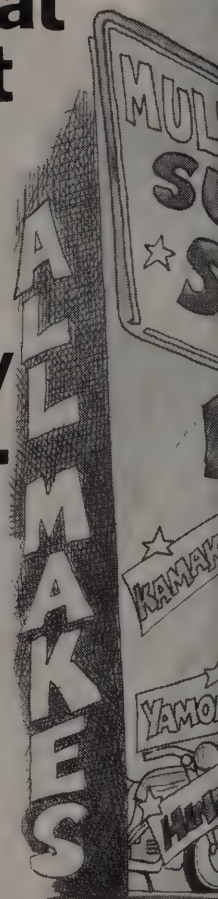
Once you have struck a good relationship with your dealer, he should be happy to let you peek into his workshop. Never mind about electronic analysers and white-topped benches. Are the mechanics happy? Is the place warm and well lit?

Does it bustle with activity? Is it well ordered? If so, then everything probably is fine. But if the workshop is cold, damp, dim, chaotic, empty or staffed by glum mechanics, suspect the worst . . .

Secondhand-only traders have about the only real bargains these days — other than private vendors, of course. By all means hunt around them, but take along an experienced buff who knows his bikes, and be prepared to burn your fingers if you buy a real 'cheapie'. Never, under any circumstances, buy an expensive 'nearly-new' from such a dealer. This is not to suggest that all such dealers are

So, you're just beginning to think that it might be time to junk the car and buy a bike...

by DAVID MINTON



MONEY

Your loss, your gain

THE RISING cost of energy continues to influence company profits, prospects and shares. Oil-company shares rose sharply when last year's OPEC increases brought them 'windfall' profits, though these may well level out as demand for oil is choked by its dearer price. Long-term prospects look good, however, as the oil companies use the cash to search for new supplies and to invest in coal and other energy sources.

Recently, interest has switched from oil to gas, which has been a relatively cheap source of fuel. The price of gas

for home cookers and heaters rose by only 22% in three years, while coal has gone up 56%, electricity 42% and the general cost of living 40%. No wonder that British Gas has been making record profits and gas showrooms all over Britain have been invaded by house owners wanting new heaters and cookers.

Well over 90% of new central-heating systems now being installed are gas-fired. That's good news for the companies who make radiators, gas fires and central heating boilers.

Stelrad, which is owned by

the packaging giant Metal Box, has reported a record year. Demand is so high that is has increased production of radiators at existing factories, has built a new one, and is planning another.

Valor is another company cashing-in on the big swing to gas. It switched from making mainly paraffin heaters to gas fires some years ago, and the move has paid off handsomely. Profits nearly trebled to more than £2million in five years, and rose a further 28% in the six months to September 1979.

How these success stories

crooks — far from it — but the nature of their business makes any sort of spares and after-sales service difficult, and you will need both, sometime.

A stepthru for a family man

Bob Logan is 34, lives on the outskirts of Birmingham and works in the city centre in the commercial security business. He works irregular hours in varying locations, so public transport is no help to him at all. The car he once used has been

taken over by his wife, who is a draughtswoman and needs equipment-carrying transport.

When DRIVE met Bob, he was about to buy a new moped: 'I don't like bikes — I don't really want one, but I've no choice. I just want the cheapest transport I can lay my hands on.' It wasn't, however, Bob's hands that worried us: he weighs 16st, and the legally restricted power output of a moped would undoubtedly balk at such a bulk. 'Name me an alternative,

and I'll use it,' Bob challenged, waving his £120 budget. Our first visit was to a main Honda agent. Bob's introduction to a Honda C90 stepthru turned him into a choosy buyer. He refused even to consider Yamaha and Suzuki stepthrus when he learned that they used two-stroke engines. 'Lawn mowers' he called them . . . But a day's search for an as-new £120 stepthru (£370 brand-new) changed his mind: a few days later, he telephoned with the news he had tracked down three



will be affected by the recently announced 29% increase in the price of gas, only time will tell. In fact, even despite the rise, gas could well continue to be an attractive proposition both to users and to investors in gas-related companies.

Looking generations ahead, coal is likely to remain the surest supply of energy, thanks to open-cast mining only a few hundred feet below ground. In Britain, some 13-14million tons of open-cast coal are dug out each year by the National Coal Board at a profit so big that it covers the overall loss it suffers

on its 100million tons of deep-mined coal each year.

One company that investors should not neglect is Burnett and Hallamshire, of Sheffield, which is working valuable open-cast coal sites in Britain, and making good profits.

In a small, heavily developed island such as Britain, digging great holes brings planning problems and endless delays — even if you promise to fill them in quickly to produce rich farmland. But in the wide, open spaces of South Africa, America and Australia, there is surface coal in abundance. Shell has

been pumping money into Australian coal development, which enhances the long-term prospects for the company.

The secret of profitable open-cast mining lies in modern methods of digging and transportation. Draglines, diggers, scrapers, loaders and dumpers of enormous capacity are used, and the biggest supplier of these huge machines, London-based Blackwood Hodge, has undoubted growth prospects.

In the field of energy conservation, selected engineering companies are attracting inves-

tors' attention. One leader is Spirax-Sarco, which produces equipment to stop valuable steam escaping from factories. Its profits have expanded nearly six-fold in 10 years.

Finally, on the home front, investors should not overlook Rentokil, which has done well protecting property against woodworm, damp, dry-rot and other perils, but which is also expanding into heat insulation for buildings. This is a natural development of its business, and one that should grow in importance as we all become fuel conscious. ROBERT HEAD

possibles — one of which was a Suzuki FR80 stepthru.

The Suzuki was for sale in Coventry at a moped-and-cycle specialist. At first glance, the 1976, £100 machine looked sound. Then we discovered that the paintwork and plastic were peppered with countless minute metallic particles — obviously corrosive, for they had begun to attack the finish. Bob thought he could get over that with a spot of elbow grease. But then we saw the bent centre-stand, the sloppy, worn-out kick-starter crank, the scarred screws around the contact-breaker points' housing — all evidence of a bike with a history of poor reliability and brutal treatment.

Back in Birmingham, we looked over an apparently fine example of a 1974 Honda C90 selling for £129 in a moped and cycle shop. Wheels and suspension felt firm in their mountings, the machine's frame geometry was perfect, and it was as clean as a new bike, obviously having been garaged under cover by both of its previous owners. But beneath the plastic legshield-cum-engine cover we discovered deep layers of accumulated dirt, and some corrosion as well. The engine oil was as thin as paraffin and a dirty, dull-greyish colour from contamination by water and acid impurities — a sign of frequent short journeys, insufficient to warm the engine, and no oil changes. A brand-new silencer confirmed our suspicions. The old one had probably rusted through from internal condensation for the same reason. We passed it by, too.

Then we saw a Honda C70 (70cc-engined brother of the C90 stepthru). This was priced at £109 — a late-1974 model, with two owners behind it. There were 21,000 miles on its clock, mainly from trips by the last owner into North Wales every weekend; he had exchanged it for a 200cc Honda.

It was a drab little bike, with dull paintwork, a dusting of aluminium surface-corrosion and seat padding that had collapsed; the controls were loose with wear, but all were damp with lubricating oil and perfectly adjusted; the air-cleaner's rubber hose was old but firm; the brakes excellent; the chain was well adjusted and oily; and the wheels were in perfect alignment — in short, a bike that was well used, but unusually well maintained. As most of its journeys had been long ones, engine and transmission wear promised to be minimal.

Certainly the engine started well, sounded quiet and idled reliably. A test ride revealed a performance that could not be seriously faulted.

'That's the one I want,' said Bob, 'but I want a year's MoT on it.' The dealer pointed out its certificate, valid for a further eight months. Bob agreed to buy. 'L-plates at my time of life,' he complained with a smile.

A tough bike for a teenager

Mark Price, from Croydon, is 18 and loves bikes to distraction — a passion that

terrifies his parents. He clears £39 a week by servicing duplicating and print machinery, and promised himself a 400cc four-cylinder Honda CB400 as soon as he passed his test — which he had just done on a friend's 175cc Honda. His new buy would be his first bike, although he still owned a moped.

Mark reckoned that he had enough saved for the initial deposit, but we pointed out that he was going to have to find almost £20 every week to cover hire purchase, insurance, petrol, road tax and maintenance costs for what is an obsolete and highly complex machine requiring expensive spares. Mark eventually agreed to settle for something smaller and cheaper than the £600-plus middleweight. 'But nothing less than a 250, and that's absolutely final!'

We went searching for a cheap Honda CB250 — a tough, four-stroke touring twin. Initially, Mark wanted a sports 250cc two-stroke of some sort, but, despite the claims of their aficionados, the mechanical simplicity of sports two-strokes is achieved only at the cost of expensive engine components and a need for the strictest maintenance disciplines: an apparently simple seizure on some models is enough to warrant a complete crankshaft, piston and barrel replacement — all of which can be caused by a maladjusted contact-breaker gap or oil metering pump . . .

After combing eight or nine backstreet secondhand-bike dealers in south London, we eventually found what we were looking for in a lock-up shed at the back of a reputable big dealer. At first, he was unwilling to admit to stocking any old hacks, but, when we pointed out that we were willing to sign an agreement releasing him from any responsibility for the machine, he showed us in.

Poor Mark was horrified with our choice — a 1970 Honda CB250 suffering from the following complaints: a broken exhaust valve that had scarred a piston crown and combustion chamber skull and valve seat (workshop mechanics had already opened up the engine); corrosion covering the entire machine, including the aluminium engine castings; a missing battery; seat badly torn; handlebars bent; a footrest bent; the silencer on the same side crushed; and the fuel tank badly dented.

We borrowed our car's battery and discovered that the Honda's electrics were in first-class condition throughout. Close inspection suggested that careful work with a fine file and buffing would satisfactorily return the piston and combustion chamber to efficient working condition, and a new valve and seat would complete the job. In all other respects, mechanical condition was excellent. After measuring the wheels and frame, it became obvious that crash damage was limited to the repairable footrest and the cheaply replaced handlebars and silencer — bought for £3 off another old Honda in the same lock-up; corrosion was purely a sur-

face matter and could be cleaned off; the seat could be exchanged for a reconditioned one from a specialist; the fuel tank could be reshaped by a professional, then painted; and a new battery was simple enough. We reckoned that £60 should cover the lot.

The principal task involved was one of stripping the bike into its major component groups — wheels, suspension, frame and power unit — cleaning them, inspecting and readjusting the mechanical parts, painting the others, including the rusty rims and spokes, and then reassembling.

The dealer wanted £80, we offered £50 and the deal was clinched at £60.

But why do it this way when, for £150, Mark could have bought a runner? There were four reasons: Mark was not involved in any extended financial agreement, and he could repair his very own bike as and when he could afford it; he would learn an invaluable amount of mechanical knowhow that would stand him in good stead all his life, even on cars; because of the amount of effort and skill he would put into renovating the machine, he would take great pride in his riding and be unlikely to risk damaging it . . . or himself; and Mark's parents would be bound to take an interest in, understand and even find pleasure in their son's new-found mechanical skills.

A fifth reason, of course, is that he would save £30 — enough to buy a crash helmet for the pillion passenger he was now allowed to carry . . .

A 'little bike' for a young girl

Lorna Lewis is 19 years old, lives in Worcestershire, and has to travel 14 miles to the farm where she has just started work. There is a bus she could catch, but the service doesn't allow for the flexibility of working hours that her employer feels is necessary.

After considering all the options, Lorna had come down in favour of a little motorcycle: 'I can't afford a car, and I would like something I can trust to get me to see my family in London from time to time. And it's got to be able to take a big windscreen to keep me warm and dry in bad weather.'

Fortunately, Lorna used to be an enthusiastic long-distance cyclist, and she learned the rudiments of motorcycling from an ex-boyfriend. Nevertheless, she had no idea at all of what make or model machine she either wanted or needed; and whatever we chose had to cost no more than £150 — that magic figure again — and even then some form of easy-payment facility would be needed. This eliminated any chance of buying a glass-fibre fairing (Lorna's 'big windscreen') — these pieces of equipment cost from £90 upwards.

As always, we started with her nearest dealer — a Yamaha specialist with a choice of two DT125 models in stock; fine little 125s, too, but trail-bikes with knobbly tyres and a 21in front wheel rim that eliminated any chance of fitting a

Who loves ya, bambino?

Blame it on the Mini Cooper S: that was the car that started it all. BMC turned its development boys loose on the power unit of the baby runabout, and the result was a car that dominated the international race and rally scene for the best part of a decade. More important, it was a production car that combined really exciting performance and handling in a sensible package within the reach of anyone who could afford the insurance.

Other manufacturers have struggled to find the formula, and a few have succeeded. But often, along the way, the original objectives were forgotten: a leather steering wheel and stick-on stripes seem rarely to boost a car's performance...

The new Fiat 127 Sport certainly has all the cosmetic touches, but it also has an engine

Fiat 127 Sport

Fiat 127 Sport On the road 1977

that, on paper at least, promises a few turned heads. But **DRIVE** doesn't believe everything it reads in the paper.

How it goes

All Fiat 127s, bar the bottom-of-the-range 900L, are now powered by a Brazilian-built 1049cc overhead-camshaft engine. In the Sport's case, modifications to the cylinder head and exhaust system, together with a twin-venturi Weber carburettor, combine to boost power from a respectable 50bhp at 5600rpm to a whopping 70bhp at a prolific 6500rpm.

A manual choke replaces the soft-life autochoke found on other 1050 models — and it certainly doesn't allow you to take things

easy. Cold starts usually took two or three attempts, and we had to jiggle continually with the awkwardly sited choke control to prevent stalling during the thankfully short warm-up period. Once warmed, however, idling was smooth and reliable.

A thrash on the gear lever, though, is what will put the colour back into the cheeks of Cooper aficionados: a standing-start dash to 60mph takes just 12.6sec, leaving the little Sport's many super-mini rivals gasping. And it continues to pull strongly up to 70mph, when performance tails off dramatically to a maximum of 91mph. The tachometer is red-lined at 7200rpm, and one has to make full use of all that's avail-

able to get the best performance. Top-gear acceleration is no more than reasonable.

But that gear change — so notchy, imprecise and with a tendency to baulk. And your passenger will have to sit well back to avoid being 'kneecapped' by the stout gear lever being whipped into second. The clutch managed a 1-in-3 hill restart, but it was accompanied by plenty of wheel-scrabble, and take-up was strong enough to catch out our boy-racer with a couple of red-faced stalls.

The Sport has slightly wider wheels than standard 127s, but, surprisingly, it has the same, narrow, 135-section tyres; the front rollbar has been stiffened, but, otherwise, suspension and steering remain as before. All of which seems to suggest that Sport-buyers are being 'done'. In fact, the bog-standard 127 has always



been a rather superior supermini when it comes to agile and responsive roadholding and handling — exciting, fun, plenty of road 'feel', and a degree of sensitivity that is unrivalled in its class. Cornering is flat and well balanced. In short, all 127s are sporty. Why change anything for a Sport badge?

The thing that disappointed us most about the Sport was its driving position. After superminis such as the Ford Fiesta or Volkswagen Polo, with their clever knack of making you feel as though you are behind the wheel of a real car, the 127 seems very mini-like. Close-up drivers will find insufficient legroom and the wheel too far away.

And the pedals: small pads, everything set to the left, an uncomfortable angle of attack on the accelerator — all too, too Italian. Our testers also tended to catch a foot under the steering column, and one has to park an idle left foot under, rather than next to, the clutch pedal.

The large seats give reasonably good back and lateral support, but

they are so wide that it is difficult to reach the recline mechanism when they are set right back. And the chunky, leather-bound steering wheel was a little too chunky for our liking and set too high for a comfortable reach.

A trio of colour-coded column stalks within easy finger-tip reach of the wheel operate the intermittent and single-speed wipers with electric screenwash (on the right) and indicators and lights (on the left). A bank of four rocker switches grouped together on the right of the fascia are unlit and awkward to find at night.

The instrument pack is reasonably comprehensive, including oil-pressure and water-temperature gauges, but there is no trip recorder nor tenth-of-a-mile figures on the odometer. There is a good array of warning lamps, although shorter drivers are almost certain to find some masked by the steering-wheel boss.

We didn't like the two small sports-type door mirrors much, but deep glass areas and an accurately dipping interior mirror ensure reasonable all-round vis-

ion . . . although compromised in wet weather by wipers that, despite having been converted to righthand drive, still leave some nasty blind spots — a fault that afflicts the rear-screen wiper, too.

How comfortable

By small-car standards, the 127 rides extremely well, dealing surprisingly ably with the badly broken-up tarmac that's still to be found on minor roads after the hard winter of 1978/1979. It is generally more relaxed and absorbent at low speeds, and one is always aware of the nature of the road surface but seldom offended by it. Increased speed aggravates matters, but it never degenerates into anything really violent.

When it comes to other areas of refinement, though, the Fiat compares less favourably with its rivals. It would be all too easy to dismiss the engine's deep induction roar and the sporty exhaust rasp as being in character, but it can also be wearing around town or, together with wind noise and transmission whine, on a long, high-speed trip. And it's not the

FIAT 127 SPORT

Parts/repairs (inc VAT)
clutch £38.52 (fitting 4.3hr)
exhaust £60.85 (0.9hr)
headlamp unit £18.80 (0.2hr)
front bumper £20.59 (0.35hr)
laminated windscreen £61.48 (1hr)

oil filter and points £4.56 (0.3hr)
major service 12,000 miles (3.2hr)

Insurance group 4

Warranty 1yr unlimited: 2yr/24,000 miles on most major parts; 2yr on anti-rust

Standing costs per year/12,000 miles

Loss of value £216
Capital interest £188
New-cost inflation £330
Total standing costs=£734 (6.12 per mile)

Running costs

Petrol (£1.20/gal) £464
Insurance (av) £153
Road tax, AA sub £72
Servicing/replacements £157
Total running costs=£846 (7.05p per mile)
Total ownership £1580 (13.7p per mile)

HOW IT COMPARES

Fiat 127 Sport

Ford Fiesta 1300S

Peugeot 104ZS

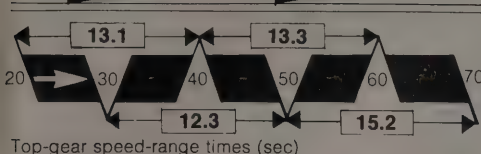
Renault 5TS

Volkswagen Polo GLS



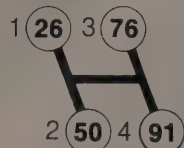
ACCELERATION Times in sec

MPH	THROUGH GEARS	IN TOP GEAR
0-30		3.7
30-40	2.4	6.3
30-50	5.0	12.4
30-60	8.9	19.5
30-70	14.4	27.7

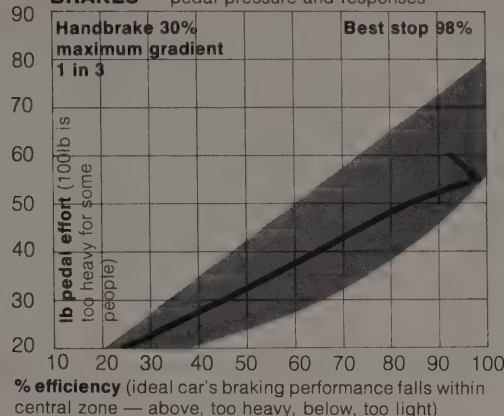


TOP SPEEDS

max engine speed used 7200rpm;
max in top 6400rpm;
standing 1/4 mile 19sec



BRAKES — pedal pressure and responses



Fade test pedal pressure needed for 75 % stop (ideal car would show no variation)

48lb at start; **38lb** in constant use; **40lb** in severe use

Watersplash immediate recovery

FUEL 4-star/97 octane min

Consumption — normal range

short journey, suburban	27mpg
motorway — 70mph cruising	27½mpg
hard driving, heavy traffic	28mpg
mixed roads — brisk, 50mph cruising	32mpg
quiet rural — 40mph cruising	36½mpg
Typical mpg overall	31mpg
Realistic tank range	170 miles/5½gal

Consumption at steady speeds

30mph	46mpg
56mph	33½mpg
70mph	27½mpg
max mph	18mpg

SAFETY CHECKS

steering: energy absorbing?	No	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	No
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	No	doors: crashproof?	Yes
convenient?	No	childproof?	Yes
rear belts: fitted?	No	petrol: spillproof?	No
		brakes: failsafe?	Yes
		load sensitive?	Yes

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ (FT)
3771	1049	31	91	18.1	27.7	98/55	11' 11½"	38¼	37	3½/32
3967	1298	38	93	14.6	28.2	97/50	11' 8½"	40	39¼	3½/31½
4098	1124	35¼	97	15.7	27.2	88/60	10' 10"	40½	32¼	3¼/31½
3966	1289	36¼	93	14.6	23.4	100/45	11' 6"	38	34½	3¼/32½
3921	1093	39	87	18.9	24.7	96/70	11' 10"	40	36	3¼/30½



car to absorb a clumsy driver's mistake in the way that a Polo or Fiesta does, either.

Like Ford, Fiat uses a lot of black inside its Sports models — carpets, facia, door and seat trim, even the headlining; with tinted glass, too, entering the interior is like returning to the womb. Better equipped, though — push-button radio that can be removed at the push of another button, clock, grab rails, cigar lighter.

Pity Fiat isn't more generous with oddments space: all you get is a small shelf under the facia and a tiny bin forward of the gear lever. The rear load canopy is shaped to take a few odds and ends, but we wouldn't recommend carrying anything heavy there, for safety's sake.

The tailgate can be opened with or without a key, rising, along with the load canopy, on twin gas struts without too much human effort. The boot area is among the largest in the supermini class, and there's no spare wheel to worry about: that's up in the engine compartment. The boot's nicely carpeted, but has a small sill over which heavy items have to be lifted. The canopy unclips easily for the stowage of larger items, but it has to be removed completely rather than be lowered flush with the rear-seat backrest. The split rear seat back folds down in half-positions, with the split cushion lifting up to form a safety barrier for those sitting in the front seat.

Triggers on the sides of the front seats release the backrests to allow entry into the rear, but we still found it very awkward

getting in and out: you have to duck your head; foot space is limited unless the front seats are moved right forward; and the cheap wire check-links that Fiat uses on the doors are next to no good at all. Once in, the back rest was set much too erect for our liking, and there is little lateral support, so one tends to slide about on cornering. Leg- and kneeroom is second only to the Fiesta's, but Fiat really should do

HOW GOOD

At-a-glance

DRIVE's verdict on the Fiat 127 Sport, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●●●

FUEL ECONOMY

●●

HANDLING/STEERING

●●●●●●●●●●

COMFORT/REFINEMENT

●●●

INTERIOR/BOOT SPACE

●●●●●●●●

PASSENGER AIDS

●●●●●

DRIVER AIDS

●●●

ACCIDENT/INJURY SAFEGUARDS

●●●●●●●●

RUST RESISTANCE

●●●●●●●

RELIABILITY/EASE OF REPAIR

●●●

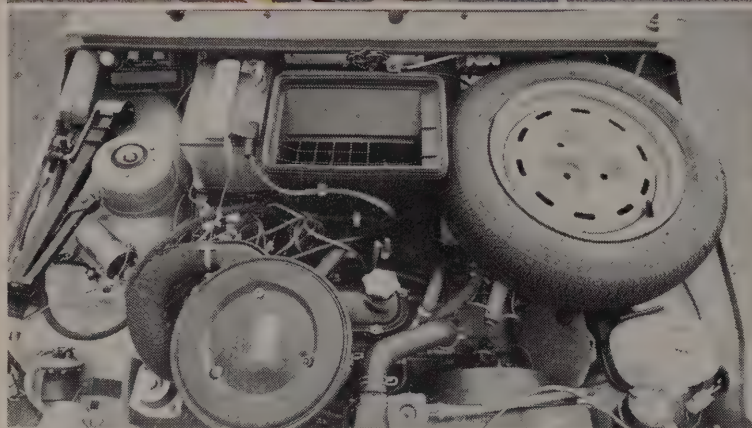
something to improve overall comfort in the back.

Heating and ventilation arrangements are rather crude: two simple slides act as a sort of do-it-yourself air-blending system, and there are a couple of small under-facia flaps that direct the flow to the floor or through the two facia vents. Two problems: there is no means of achieving a cool-face/warm-feet atmosphere; and, if cool air is directed through the facia vents, the closed floor flaps leak unwanted draughts. Screen demisting, however, is prompt, and opening front quarterlights and ventilation from hinged rear quarters takes the sting out of hot days.

How safe

Not so long ago, we would have given a tired sigh at the news of Fiat using a brake servo, but, over the past year or so, the company seems to have learned a few tricks about servo assistance. Our brake chart shows a good steady progression up to an excellent 98%-of-g stop for a sensible 55lb pedal load — just what the tester ordered. Brake fade isn't a problem, either; in fact, performance seems to improve a little as the linings warm up. Recovery from our water test was immediate, too, and, with the handbrake holding firmly on a 1-in-3 hill, the brakes sailed through our tests with distinction.

The Sport's roadholding on the limit or in an accident-avoiding manoeuvre is in the best front-drive tradition: the nose of the car runs progressively wide on fast cornering, scrubbing off speed



the faster one travels, and backing off the accelerator restores the car to a proper line. Unlike 127s we have met in the past, there was no risk of the tail swinging round in extreme conditions.

If the worst should happen, we would like more safety padding inside, particularly around the laminated screen. The inertia-reel seatbelts annoyed us by locking up every time we reached for the heater controls, and the long centre stalks dug into rib cages.

How strong

Fiat's two-year anti-corrosion warranty is more than one gets from most manufacturers; on the other hand, Renault and Volkswagen give five and six years respectively. Like them, Fiat's among the most-adventurous car makers in its approach to rust-proofing, although it has often fallen down on attention to detail.

The standard of finish on our

Sport was, however, most impressive — a good coating of pvc was applied to the floorpan, with heavy wax covering any missed areas, plastic shields under the front wheelarches and wax injected into the box sections. Several paint blemishes and one or two dull panels spoiled the metallic paintwork, but we liked the plastic bumpers that stand proud of the bodywork, and the broad, plastic waistline strips on the side panels.

Mudflaps, however, were notable by their absence — large amounts of road filth cover the side panels on wet days — but the lack of external adornment does help on washdays. Inside, the carpets cannot be removed easily, but, aided by a vacuum cleaner, valeting is not difficult.

Attention to mechanical and electrical detail is good, but Fiat hasn't enjoyed the best reputation for long-term reliability in the

Top: estate for two or hatch for four. Above: engine, and removable radio. past; time will tell if things have improved with the 127 Sport.

How much

It's very nice to race away from red-faced, larger-engined-car drivers, but such acceleration has its price . . . at the petrol pump. At 31mpg overall, the Sport is 4-7mpg heavier than rivals, and 8mpg worse off than the standard 1050 Fiat 127. Take things gently, and you may get into the mid-30s, but hard drivers will be lucky to escape the high-20s. Mind you, an odometer that reads 6½% fast will seem to do wonders for your consumption . . .

The tank is quick to fill, but its meagre capacity restricts your range between refills. There is, however, a low-level warning lamp and a lockable fuel cap.

The Sport undercuts most of its obvious rivals by £100-200-plus,

ENGINE

Type and size front-mounted, transverse 4-in-line, water-cooled; 76mm borex57.8mm stroke=1049cc; 5 main bearings; iron block/alloy head

Compression ratio 9.8:1

Valve gear overhead camshaft (shim adjustment), driven by cogged belt

Fuel system one Weber twin-venturi 34 DM TR47 carburettor, fed by mechanical pump from 6½gal tank with low level warning lamp — no reserve

Max power (DIN-net) 70bhp at 6500rpm

Max torque (DIN-net) 61.5lb ft at 4500rpm

TRANSMISSION

Clutch diaphragm spring, single dry plate, cable operated; pedal load/travel: 28lb/5in

Gearbox 4-speed (all synchromesh) and reverse; ratios: first 3.91:1, second 2.06:1, third 1.35:1, top 0.96:1, reverse 3.62:1

Final drive 4.46:1 to front wheels

Mph per 1000rpm 14.5mph in top gear

CHASSIS

Suspension — front: independent MacPherson damper/struts with integral coil springs and anti-roll bar rear: independent MacPherson damper/struts with lower wishbones and transverse leaf spring

Dampers telescopic type all round

Steering rack and pinion, 3½ turns between full locks; turning circles average 32ft between kerbs, with 52¾ft in response to one turn of the wheel

Wheels 4½B steel with 135SR13 radial-ply tyres (Goodyear G800S on test car)

Brakes dual-line hydraulics; servoed discs front, drums rear; load sensitive rear valve

and it's undeniably well equipped. Group 4 insurance is on the high side of average, and parts prices — by no means outlandish by importers' standards — aren't as cheap as those of home-grown products.

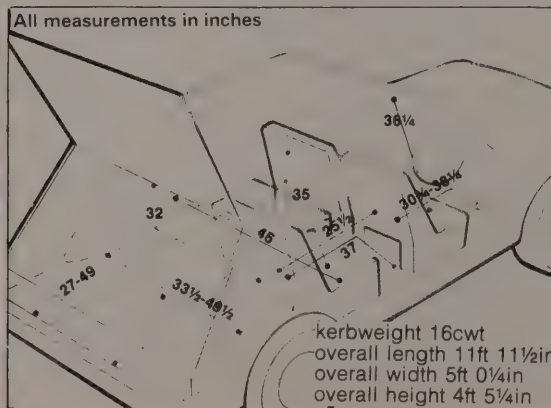
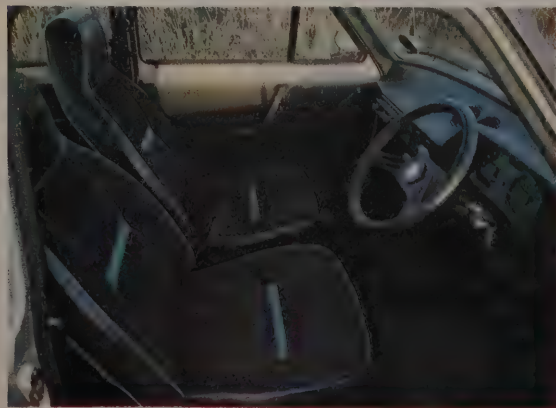
The handbook is not over-helpful to the home mechanic — we do wish that settings were given in the imperial measures we all know and/or love, as well as metric — and it tends to make some of the repair jobs look a lot easier than they are; there are superminis around that are much less demanding to work on.

Major servicing is scheduled for every 12,000 miles, with minor checks at the 6000-mile marks, and, with 400 Fiat UK dealers, you shouldn't have much trouble finding help. The mechanical warranty terms are one year, parts and labour, with a second year, up to 24,000 miles, on major parts.

Verdict

We have to hand it to the Fiat 127 Sport: it sets out to excite, and we were excited. Performance, roadholding and general handling set a standard that few can start to match. It's also very competitively priced, and it appears to be well-enough built and protected against rust to stay the course.

On the debit side, there's that driving position, and you have to try hard to drive smoothly. General noise levels did little for us, either, and, with fuel prices the way they are, we would be looking to go a lot farther on each gallon.



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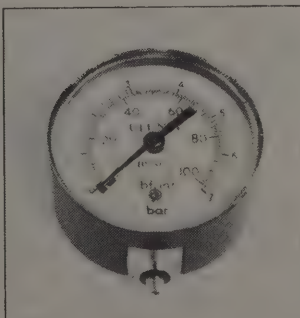
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A Sunbeam lights up our Club with the first of five checks that will chart its first year's progress. Below, the milestones in our departing Volvo's life

Up to scratch?

IT TOOK three disappointing Datsuns in a row to shake Mary Lee's faith in Japan, but now she has had enough. Mary switched her allegiance from the Far East to the Far North (Linwood, Strathclyde, in fact) in her search for reliable wheels, opting for a Talbot Sunbeam 1.3GL.

DRIVE, meanwhile, wanted someone for a Sunbeam long-term test, and, within hours of collecting her new car, 23-year-old Mary was signing on for a year with our Club.

Mary, from Riseley, near Reading, is a secretary with the local branch of the National Farmers Union; so, although the Sunbeam will live in a garage, it is in for rough treatment down farmyard tracks and over muddy fields. It sounds like a life better



Stuart McPherson

suited to a Land-Rover; perhaps that's why the Datsuns suffered.

Why pick a Sunbeam? Mary explained: 'My uncle has a Talbot Horizon, and it has gone well; my cousin has a Talbot Alpine, and he likes that; and I have a friend who owns a Sunbeam. I thought

the Sunbeam looked a good buy at the price, too.'

It was enough to make Mary trade in her two-year-old Datsun 120Y at the Reading Garage, in Christchurch Road, for a middle-of-the-road price of £1700, parting with £1966 to make

up the difference. Her only extras were an £86 radio/cassette — which, the dealer told her, normally retailed at £130 — and an underbody protection treatment for £46.

Everything went smoothly. Said Mary: 'I didn't have to wait at all, and the dealer was very helpful — not pushy, or anything. He just explained the car to me and let me make up my own mind. It was a toss-up between the Sunbeam and a Renault 5.

'I must admit, I was dubious of buying a "Chrysler" — well, the company has had its problems, hasn't it. But people I know convinced me to go ahead. I'll be keeping it for two years, then I'll change again. Another Sunbeam? I'll see how this one goes.'

The Datsun story is worth hearing. Mary passed her test at 17 and bought a secondhand Cherry. She was pleased with it, but the bodywork was poor. So she splashed out on a brand-new Cherry... and that 'rusted very quickly', too. Hoping for 'third time lucky', she bought a new 120Y... but that rusted as well. And Mary felt, too, that the Datsun dealer had shown no interest in putting matters right, once she'd signed on the dotted line.

The question is: will the Sun-

Safe conduct

FANS SAY that the big Volvo is built like a tank; the rest maintain it just looks like one. Either way, it seemed a strange choice of car for a young woman — or so we thought when 27-year-old Sheila Platt, of Guildford, Surrey, joined our Long-Term-Test Club a year ago.

Our Volvo buyer had good reasons, however, for spending £5317 on a new 244DL, instead of opting for something more sporty and lightweight. Top of her list was the fact that she had already enjoyed three years and 59,000 miles of virtually trouble-free motoring in her first 244DL. And she was, as befits a skilled facial surgeon, most impressed by the car's safety record: 'I feel really safe only in large cars. And, because I drive to Lancashire several times a year to visit my family, I needed comfort, too.'

Check 1

22 January 1979 — 280 miles Sheila's DRIVE year started with a celebration: Romans of Woking, her local Volvo dealer, sent her on her way with a free tankful of petrol and a bottle of champagne — all included in the £5317 deal.

Very nice; but, even before she popped the cork, Sheila drove straight to the AA's technical services headquarters in Basingstoke, Hampshire, where

engineer Bernard Tasker went to work on the new Volvo...

First thing our man spotted was the badly hung driver's door — something Sheila had already found for herself. Then, using an endoscope probe, he saw small areas of rust behind the rear wings. The insides of the doors had been given scant corrosion protection, but the generous underbody treatment had been too generous — patches of petroleum wax on the exhaust pipe were resulting in a nasty smell when things hotted up. Tasker also noted excess sealant round the rear screen rubber, and some insecure brightwork.

The engine idling speed fluttered between 800 and 1200rpm

and the engine was difficult to restart when it was hot. All the tyre pressures were incorrect, there was a slight steering bias to the left and excess play on the nearside front wheel bearing. And the offside wiper blade was fouling the windscreen surround.

Check 2

5 February 1979 — 1100 miles

Sheila returned to the AA's workshop with the car, where our man found that not all the faults had been attended to at the first service. 'My fault,' admitted Sheila. 'I didn't draw the garage's attention to them...'

Even so, Romans had corrected the idle speed, and the track rods had been adjusted to sort out the steering bias; the bad news was that there was now a slight bias to the right. The engine still did not want to start when it was hot, and the front wheel-

bearing's play was still there.

Said Sheila: 'I really am very happy with the car. It's a distinct improvement on my first Volvo, and I'm looking forward to driving it for at least three years.'

Check 3

21 May 1979 — 6184 miles

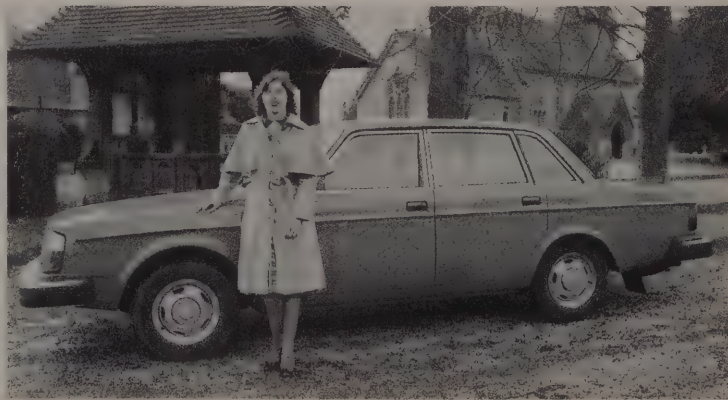
The winter had faded into memory, and it was spring when Sheila called again. She'd had, as they say in her business, a nose-job: 'I'd parked the car in the hospital carpark as usual, and, next thing, someone came to tell me there had been an accident involving my car. It seems the handbrake on someone else's car had failed, and it rolled down a slope... smack-bang into mine.'

By the time we saw it, however, the damage had been repaired, and Sheila was the not-too-proud owner of a new front wing.

Tasker praised the repair work as being of a good standard, but he noted: 'The paint does not have the same depth of lustre as the original panels, and could, I feel, be improved. A short section of the mounting face, adjacent to the bonnet hinge spring, has not been fully painted, and the lamp-cluster insulation is still showing signs of damage.'

Our man also found slight play at both front wheel bearings, and he spotted an oil leak at the offside rear hub that called for prompt attention.

Taking to the road, he com-



beam still be shining in two years' time? AA engineer Glyn Marrett met Mary and her car at the Basingstoke headquarters, and set out to make some forecasts.

On the bodywork, both headlamp rims were rusty and needed replacing, and there was a trace of messy mastic sealant around the offside rear lights. The headlamp lenses hadn't been washed clean — they were still smeared with delivery wax — and the driver's-door weatherseal kept sticking to the door pillar.

There was a small paint chip at the top of the tailgate, and rust was settling in where the front valance met the offside wing.

Inside, Marrett spotted that a tiny plastic plug was missing from a rear seatbelt anchorage point, screen sealant needed cleaning off the nearside rear-quarter-panel upholstery, and there was a small blemish on the carpet weave. Acceptable, perhaps, but no one could say that about the water sloshing around in the spare-wheel well: it was rust coloured, and there was plenty of it . . .

Marrett noted the noisy tappets, but he wrote them off as a Sunbeam characteristic. Something needed doing, however, about the oil leak from the timing-chain-cover seal, and

plained that the engine 'pinked' under load, the windscreen wipers were noisy and that the offside wiper blade still fouled the screen surround.

The faulty door, however, had been rehung, and Romans had loaned her a car free of charge while it did the work.

Check 4

19 July 1979 — 9064 miles

The car was now six months old, and Sheila was more convinced than ever that she had picked the right one for the job.

Tasker went to work again, reporting: 'The damaged lamp-cluster insulation has been replaced, but the paint faults on the wing are still there. Most horizontal surfaces, most noticeably the bonnet, now show 'spotting' and paint marks that were not there in May.'

Sheila had noticed the same marks on other makes of car in the hospital carpark. Tasker assumed that the problem was being caused by 'industrial fallout'.

He continued: 'The boot lid, and, to a lesser extent, the roof, display deep scratches consistent with heavy objects being dragged across the car.' Sheila knew the answer to that one. Her neighbours in the hospital carpark appeared to have little respect for other people's property, and rested heavy bags on her car while opening their own. Dragging them off caused the damage.

Near the end of the test drive,

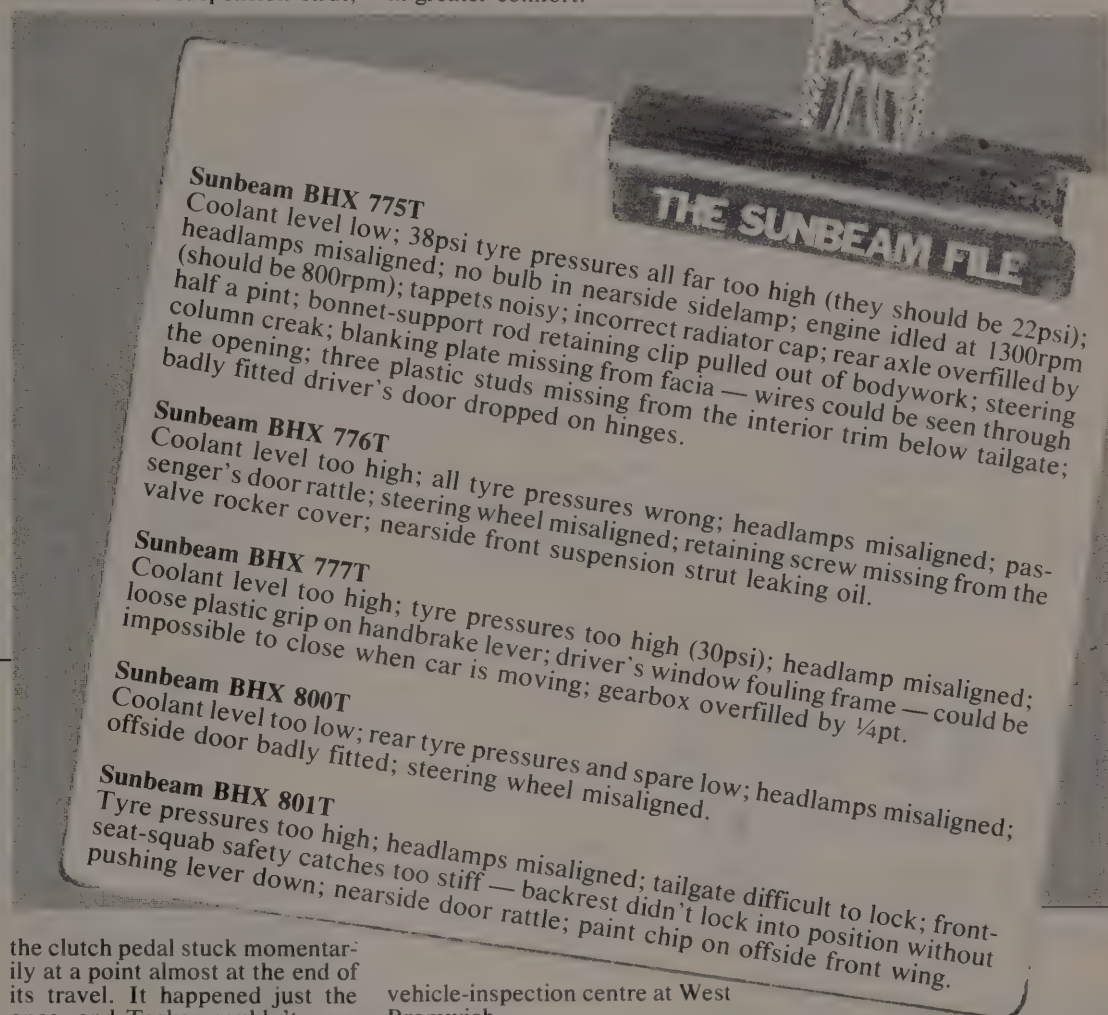
about a carburettor that was set to run decidedly rich. Our carbon-monoxide meter gave a reading of 9%. The legal maximum is 3½%.

Mary's £46 rustproofing treatment had missed three areas: the nearside chassis longitudinal member above the engine cross-bearer, the offside fitch panel inboard of the suspension strut,

where tape had been removed, and areas above both rear springs.

On the road test, Marrett cured the hard ride by reducing the tyre pressures from their set 30psi all round to the manufacturer's recommendation of 22psi. At least Mary would be driving home in greater comfort.

DRIVE readers will also be able to follow the fortunes of five AA-owned Sunbeam 1.3GLs, as our tests show up faults that are typical or unique. Below is what we found after the dealer's pre-delivery checks



Sunbeam BHX 775T
Coolant level low; 38psi tyre pressures all far too high (they should be 22psi); headlamps misaligned; no bulb in nearside sidelamp; engine idled at 1300rpm (should be 800rpm); tappets noisy; incorrect radiator cap; rear axle overfilled by half a pint; bonnet-support rod retaining clip pulled out of bodywork; steering column creak; blanking plate missing from fascia — wires could be seen through the opening; three plastic studs missing from the interior trim below tailgate; badly fitted driver's door dropped on hinges.

Sunbeam BHX 776T
Coolant level too high; all tyre pressures wrong; headlamps misaligned; passenger's door rattle; steering wheel misaligned; retaining screw missing from the valve rocker cover; nearside front suspension strut leaking oil.

Sunbeam BHX 777T
Coolant level too high; tyre pressures too high (30psi); headlamp misaligned; loose plastic grip on handbrake lever; driver's window fouling frame — could be impossible to close when car is moving; gearbox overfilled by ¼pt.

Sunbeam BHX 800T
Coolant level too low; rear tyre pressures and spare low; headlamps misaligned; offside door badly fitted; steering wheel misaligned.

Sunbeam BHX 801T
Tyre pressures too high; headlamps misaligned; tailgate difficult to lock; front-seat-squab safety catches too stiff — backrest didn't lock into position without pushing lever down; nearside door rattle; paint chip on offside front wing.

the clutch pedal stuck momentarily at a point almost at the end of its travel. It happened just the once, and Tasker couldn't coax an action replay; but Sheila admitted that it had happened a couple of times to her and was causing worry.

'It's not an indication of an impending catastrophe,' reassured Tasker, 'but something needs attention. If the release mechanism doesn't fully retract when you lift your foot, it could cause release-bearing wear and shorten the life of the clutch.'

The wheel-bearing play was still there, and, although not dangerous, it called for adjustment. 'Bar that,' said Tasker 'this is an excellent vehicle which, given Sheila's enthusiastic ownership, will doubtless give many miles of good service.'

Check 5

19 October 1979 — 14,732 miles

Sheila moved to Birmingham and a new job as a lecturer at a dental college. To fit in with her new address, the next inspection was carried out at the AA's main

vehicle-inspection centre at West Bromwich.

The Volvo arrived just after a service at the Guildford garage. Romans had repaired the sticking clutch without being asked — no charge — and also surprised Sheila by replacing — again no charge — the damaged windscreen trim.

AA engineer Alan Haynes was entrusted with having the last word on the Volvo, and he set out to out-Tasker Tasker: a six-page report covered everything from a tiny chip in the laminated windscreen to assorted oil leaks.

Haynes found the oil level dangerously low, and sent Sheila off to buy some. While she was gone, he investigated further and found oil dripping from the rear-axle level plug, the gearbox and the engine sump. Her garage would have to clean up the mess to trace the source of the oil.

Gas was escaping from various exhaust-pipe joints, but not enough to make Sheila cough, and

oil was leaking from the nearside-front shock absorber.

Looking for movement in the steering column, he found plenty, and traced the cause to an insecure pinch bolt at the base of the column — an essential repair. And he noted that the play was still there in both front hubs — a service job.

Sheila was dismayed, for she had been planning to drive the best part of 100 miles, from the AA centre to Bolton . . . and it was 4pm on a Friday. A call to a local Volvo dealer produced the longed-for response: 'Bring the car straight over and we'll fix it now.' She did, and they did.

Sheila set off to Bolton and the blue horizon with her faith in Volvos unshaken. Without the eagle-eyed Haynes, however, she would have been lucky to arrive in one piece. And she might have needed all those Volvo tank-like qualities . . .

magistrate at Bexley Court, south London, and a member of the Magistrates Association's road-traffic committee: 'The police are fully stretched. Goodness knows how many motorists get away with things. You've only to spend five minutes on the road to see many people breaking the law. Only a fraction of a percentage end up in court. Remember, too, that an enormous number of drivers who are stopped receive only a verbal caution.'

How many, though, are *really* unsafe? A Transport and Road Research Laboratory study of careless-driving offenders indicates that they are likely to use their mirrors less than non-convicted motorists, give fewer signals, display more extremes of overtaking behaviour, drive faster in derestricted zones, show more lapses of concentration, carry out more unnecessary manoeuvres and take more risks. They also admit to being involved in twice as many accidents.

The key question hanging over the government working-party, however, is: *why do so many motorists not think twice after collecting two endorsements?*

John Home: 'I still take calculated risks. I justify them to myself. All right, I may be a "persistent offender" in the eyes of the law, but I only ever put my foot down when it's safe. I don't consider myself to be a danger.'

'I feel that the law is outdated. Virtually every car made today can comfortably exceed the 70mph limit, which, in

my view, is thoroughly unrealistic on motorway-type roads. It really is a lottery whether or not you get nabbed.'

'His view is typical,' says Dr Don Taylor, who has investigated risk-taking at the TRRL. 'Nearly all offending motorists believe that their convictions are no more than bad luck. They blame everyone and everything but themselves: the unfairness of the system, the police for "hounding" the poor motorist, sometimes even the circumstances that led to them being stopped. Few make the effort to change their driving habits.'

'The roads would be a lot safer and the courts less like Piccadilly Circus in the rush-hour if, after committing an offence, drivers questioned their ability and took steps to develop good habits.'

In common with many who drive for a living, John Home also argues forcibly that the high mileage he records should be taken into account by the law because it increases his chances of being pulled up by the police. Dr Taylor counters: 'What professional drivers should impress on themselves is that they have more reason for restraint. Their jobs depend on it.'

In Dr Taylor's eyes, the glaring deficiency of the current penal code is that it does not actively seek to improve offenders' driving: 'Fines and bans don't make people better drivers. The system should educate as well as punish. It should, for instance, invite persistent lawbreakers to take re-training courses. This would not only stand a reasonable chance of changing attitudes and habits; it may also make offenders question their driving ability and acknowledge blame.'

The London borough of Greenwich's road-safety officer, Bill Edwards, certainly would like to see magistrates give three-endorsement motorists the option of joining a better-driving class run by a local authority — 'Reports of how they got on could then be considered by the court before sentence is given.'

Seven years ago, Bill Edwards carried out an experiment with 50 motorists. After attending five lectures on better-driving, participants' driving standards were checked on the road and the results compared with their performances on a pre-course assessment drive. The incidence of good-driving aspects rose by 28%, while manoeuvres considered by the examiners to be in need of improvement fell by a third.

Elsewhere in Europe, the W German Flensburg points system allows for such re-training. 'Score' 13 points within two years (eight for those with a previous disqualification), and motorists are given the option of taking five double lessons, at their own expense, from appointed driving schools. After the course, three points are deducted from their totals.

At 14 points, offenders must submit to a written examination, and, if they fail, to a driving test. They're allowed two chances; if they don't pass, their licences are withdrawn. Even at the 18-point limit, disqualification isn't automatic. A driver

is banned only if he twice fails a medical and psychological check.

In 1978, the most recent year for which figures are available, only 6000 W German motorists were ordered off the road, though 59,000 gathered 14 points or more and 36,000 reached 18 points. Written warnings were sent to 225,000 motorists on nine points; 5000 drivers with previous disqualifications accrued 14 points; and 4000 scored 18 points.

Unlike Britain's licence endorsements, which remain current for three years, W German points for minor offences are wiped out after two conviction-free years. More-serious cases are kept on record for five years, and criminal driving indictments stay with the offender for 10.

Clearly, the government working-party has a tough job on its hands as it ponders which system is best for Britain. As other countries have found, no method is perfect. (In W Germany, too, for instance, there is a strong lobby demanding that some leeway should be given to high-mileage drivers, but, so far, no practical solution has emerged.)

One thing is certain: there would surely be an outcry in Gt Britain if, on accruing maximum points, offenders were denied the right of a 'second chance' to keep their licences. So if court time is to be saved by sparing magistrates the arguments about excessive hardship, and if a method is to be found that, at the same stroke, offers potentially remedial benefits, perhaps the working-party should take a long, hard look at the W German example and consider some form of test or retraining?

Courts already have the power to require disqualified drivers to retake the official driving test before being allowed back on to the road, and, in 1978, this additional sentence was meted out to 1150 offenders. But there is little doubt that government would not be prepared to put extra pressure on DoT examination centres, many of which are already overwhelmed by applications from L-candidates: in some areas, there is a six-month waiting list for tests.

Retraining, too, is not that simple. Unlike W Germany, Britain's driving instructors do not undergo an official three-month course to learn their craft, so Whitehall would be hard pressed to approve any existing motoring schools.

On paper, then, Bill Edwards' suggestion would seem to command attention. If offenders, at the end of a local-authority (or even an Institute of Advanced Motorists) course, showed definite improvement in driving ability and attitude, then a court could indeed exercise discretion. Failure, however, would result in a ban.

Above all, the working-party has to safeguard against any shortcomings in the present system being passed on to whatever might take its place. Meanwhile, for all our sakes, let's keep our fingers crossed that the reform in the making will prove a winner. And not just on points.

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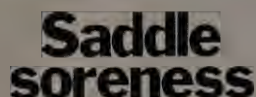
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He was shaken, but that was the least of Trevor's troubles. As

Many such newcomers to cycling may think that they are automatically covered by their household policies, but their cover is likely to exclude per-

The British Cycling Bureau, set up by the industry, confirms: 'You are likely to have insu-

'All cycles would first have to be registered, and many are owned by children. Uninsured cyclists should realise, however, that the AA knows of multiple fatalities that have been caused by cyclists. A car swerves to avoid them, and then runs into a bus queue...'

proper 18- or 19in roadster tyre, with its superior wet-weather safety. And their fuel tanks are small, and their styling unsuited to windscreens and other road-gear fittings.

Just over the county border, in Warwickshire, we discovered an amazingly low-priced Honda CG125 (125cc lightweight touring, four-stroke single) at a bicycle and moped shop. On closer inspection, we appreciated the reason for its £130 price-tag (it should have been marked up at around £270): it appeared to be the broken remains of a novice's first bike. Even so, we persisted: with only a little over 5000 miles on the clock, mechanical damage could not be much, if anything at all. But we didn't get that far: the instant we began measuring the wheels for alignment and the frame for straightness, the dealer wandered over and told us, with a dismal look: 'Forget it. You're wasting your time. If someone offered me £100 for the engine, I'd take it gladly.'

Good secondhand bikes were thin on the ground in the West Midlands, so we were forced to travel farther from Lorna's digs than was usual. We found a nice £140 100cc Yamaha, but turned it down because of the dealer's cynical attitude: 'Warranty? On a bike like this? Where have you been the last 50 years?' Then there was the dealer who claimed to hold *all* agencies and stock *all* spares . . . but who refused to let us peek into his workshop. Standing on a dustbin round the back, we saw a toolshed, occupied by a mechanic working without a bench, and a junk pile of old bikes and parts before we were driven off by a now furious and swearing dealer!

A week later, we got news of a 1976 150cc E German-made MZ TS150 going for £140 in Gloucester. We went over there and discovered a bike that passed every test, except that it required a new rear tyre and a new rear-lamp lens.

Lorna balked: 'I've never heard of the make, the dealer keeps no stock of any parts, and the bike looks funny.' The manager of the shop promised that, if Lorna left a £10 deposit on the bike, he would fit a new back tyre and rear-lamp lens, and the bike would be ready to collect, complete with MoT certificate and the hire-purchase agreement, in just five days.

It all seemed too good to be true; he wasn't an MZ dealer, but said there was one in town who stocked all the bits. We checked and there was. MZ in fact has almost 200 dealers around the country, including one in Worcester.

The best of it was that the robustly engineered little two-stroke was already equipped with legshields, a luggage carrier and complete rear-chain enclosure, as well as twin mirrors. It had covered a little over 18,000 miles in the hands of one owner.

Sure enough, the following weekend, everything was ready, and Lorna collected her bike; the windscreen was going

to have to wait for another month or so.

Two weeks later, though, we discovered a row of half a dozen rollerless bare rivets on the chain (poor chains and tyres are typical of otherwise top-quality E German equipment). After a weak argument, the dealer agreed to replace the chain free of charge or supply her with a British-made one for £4 — just what Lorna wanted.

A big bike for a young couple

James is 24 and Sally is 22. They are shortly to be married, and have made the bold decision to spend their 'furniture savings' on a big bike instead. 'Don't use our real names, because it will only cause family trouble,' James pleaded.

'We want to enjoy the same sort of holidays that my Mum and Dad did back in the 1950s: they keep telling us about their motorcycle trip to Greece and Yugoslavia, and what an adventure it was, but they expect *us* to settle down and live like an old couple.'

Sally joined in: 'If we don't get a big touring motorcycle now, then we never shall, the way prices keep going.'

So, this year, they plan to ride to Greece on a Kawasaki Z650 — a four-cylinder, medium-large, sporting all-rounder. James runs a tired old 1962 350cc Jawa. It's practically worthless, although reliable, so they plan to keep it 'just in case'.

Wisely, James and Sally decided to buy from a main Kawasaki agent: they stand a much better chance of buying a really good secondhand model that way. And, should anything go wrong, the chances of repair satisfaction will be greater than if they had bought privately or from a backstreet 'secondhand specialist'. And, living in London, they have some choice.

The first showroom had what appeared to be just the ticket — a one-owner, 18-month-old Z650, with just over 9000 miles on the clock, for £1190. Not until we were taken for a pillion ride by the salesman did we hear a faint but persistent tapping noise. The man in front said he hadn't noticed it, but, now that we mentioned it, perhaps it was a loose camshaft chain, or a wide valve clearance? We searched deeper . . . and found a faintly carbonised sparkplug in one of the centre cylinders. By the simple expedient

of rocking the rear wheel over with top gear engaged and the ignition switched off, we came to the conclusion that compression was low. The tapping noise and the soft carbon suggested a partial piston seizure at some time on that cylinder; it had been freed but not rectified, and now the bore itself was scored.

The next machine looked and felt right. It was priced at £1290, more than James and Sally wanted to pay (they had £1300 cash but wanted £200 of that for insurance, road tax, and a luxury touring dual seat). The bike was a mere nine months old, with a little under 6000 miles behind it. All the controls were well oiled and correctly adjusted; the battery terminals were covered in petroleum jelly; spare fuses were taped into the fusebox; and dust shrouds had been fitted to the rear suspension units. In short, it passed all inspections perfectly.

We moved on to another Z650 priced at £999 — almost two years old, with 21,000 miles under its wheels. The owner had obviously been a hard-riding buff, because we discovered a pair of expensive, racing-quality rear-suspension units, a quick-action racing-type twist-grip, the front tyre tread scuffed a long way round the walls, and the front brake discs scored with heavy use. A fine bike, maybe, but one that spoke clearly of a hard, fast-ridden if well-cared-for life. We left it for someone else, and returned to the previous example.

James explained that it was more than he could pay cash for, if he was to get the special seat he and Jenny wanted. A spot of haggling took place, and James and Sally got their big bike for £1200, provided that they bought the special seat from the shop.

As the bike had left its first owner, the 12-month/unlimited-mileage warranty applying to all new Kawasakis was no longer valid, but the shopowner agreed to honour it for the final three months as a purely private deal between James and Sally and himself; and, in the case of serious trouble, he said, it was most unlikely the factory would refuse to honour a claim within the specified period — a fact that Kawasaki later confirmed.

James and Sally mounted up and headed for the passport office — and, eventually, Greece.



'Don't look now, but I think we're being followed'

Book selection from the AA

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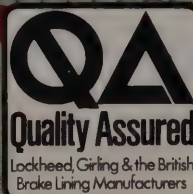
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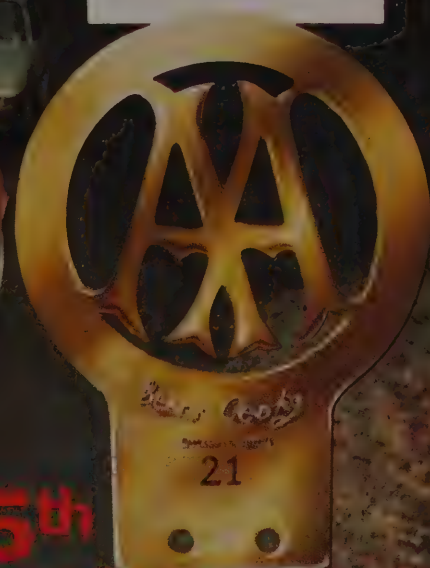
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Ford Fiesta 1300S
Saab 900 Turbo
Mini City

Index of
Motoring
Costs

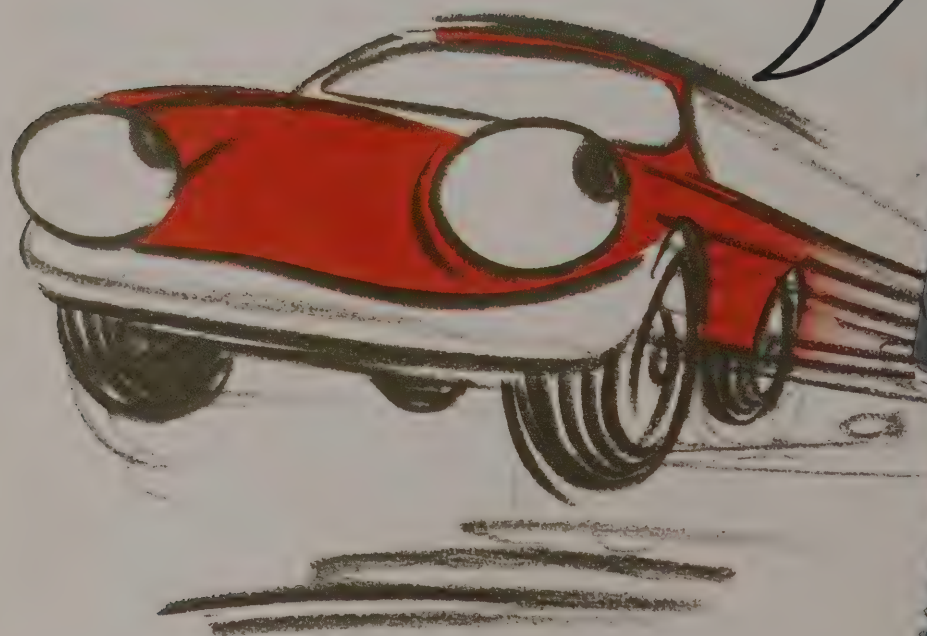
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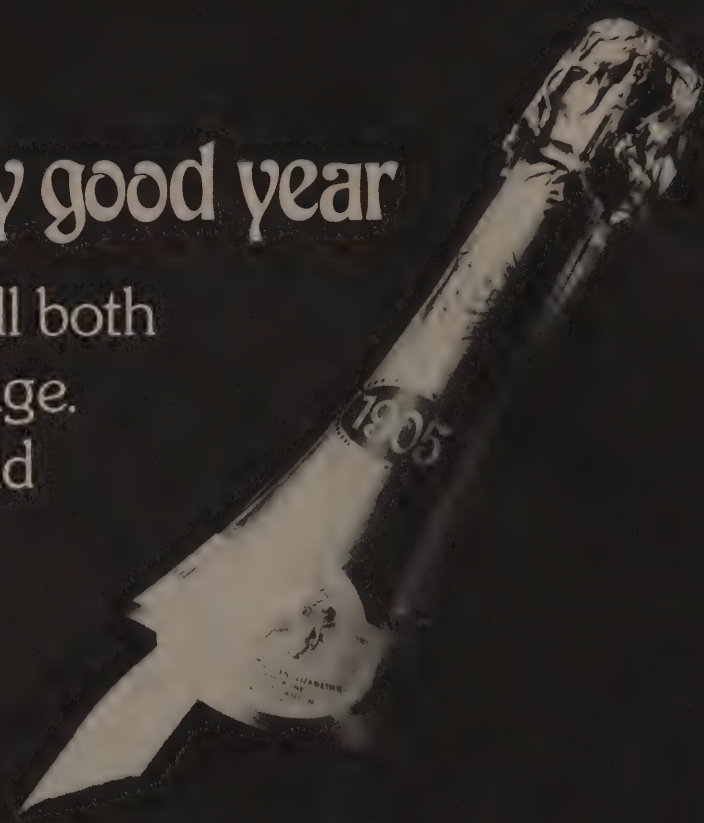
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It means extra confidence in your brake pedal.

Noticed how many new brands of brake pads and shoes there are around?

Names you've probably never heard of before.

The British Brake and Brake lining manufacturers, world leaders in the braking field, have run tests on some of these unknown brands. And many of the results were alarming.

Some of the unknowns were prone to fade.

Some wore unevenly and varied so greatly in performance they were simply untrustworthy.

British manufacturers have decided to identify the products in which you can have real confidence.

QA. The Quality Assured symbol.

QA means assurance of quality, reliability and, above all, safety.

Every product bearing the QA symbol meets the high standards used by the British Brake and Brake lining manufacturers.

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74/5/DR

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Prices correct as DRIVE goes to press

SEVENTY-FIVE YEARS ago — in May 1905, to be precise — a group of businessmen met in a room above a pub in London's Gt Marlborough Street and, like others before them, took the first step to founding an organisation to protect the interests of a small but growing band of road-users called motorists.

There can be no doubt that they were pleased with their day's work. But how much more pleased would they be in 1980, were they here to applaud threequarters of a century of service by that organisation to the motorists of Gt Britain?

This issue, we join in the AA's celebration of 75 fascinating years — start reading, page 55 — as well as honour our commitment to keep you up to date with today's world of motors and motoring.

Join us as we pay tribute to all the wonderful men and machines of our motoring yesterdays. And stay with DRIVE as we steer into the next 75 years.

— the Editor

Hot tips

HERE COMES SUMMER — and, according to weather expert Arthur Mackins, it promises to be a scorcher. It was written in the wind, or on the thermometer rather, on 5 December 1979.

That day, at Oxford and several other places in the south, the temperature reached 61-62°F — a good sign, according to Mackins, that was reinforced by the appearance of a comet.

If all this sounds too unscientific to be credible, we should point out that Mackins is not known as Britain's leading amateur weatherman for nothing, for this 71-year-old from Barnham, Sussex, has slipped up only once in recent years. Otherwise, his system — studying weather patterns and data since 1908, taking sea temperatures, and holding up a wet finger to the wind on the



days of equinox — has proved uncannily accurate.

Last October, for example, he predicted that this January and February would be far less extreme than in the previous winter, but that some very cold periods with snow and frost

could at times be expected. His forecast, published in DRIVE January-February, was spot-on.

Certainly, Mackins' formula bodes well. Confirming his theory that a temperature of 60°F or more in December means a memorable following summer, one example he cites is Christmas Day 1974. Then, Southsea and many other south-coast resorts had a temperature of 60°F, followed by endless sunshine from 5 June to 10 September, when the mercury soared to 90°F and even more.

Comets, too, says Mackins, have been precursors of dry spells lasting from three to six months — as in 1910, 1973 and 1976. So it's promising that, in January this year, Bradfield's Comet appeared.

We're all keeping our fingers crossed...

Winged ferries

CROSS-CHANNEL ferry companies, which have taken a leaf out of Sir Freddie Laker's book by waging a price-cutting war on the Straits of Dover, could themselves be out-Lakered.

DRIVE reckons that it's only a matter of time before Sir Freddie takes his celebrated Skytrain into Europe, and the rock-bottom fares that he's proposing could prove a bonanza for motorists.

For, if Sir Freddie's plan does finally get the nod from the Civil Aviation Authority, it could lead to fly-drive packages substantially cheaper than touring abroad in your own car. You would fly to your destination and walk from the aircraft straight into a waiting hire-car.

Savings of up to £70 for a small family would not be the only bonus. Travellers would be spared days of journey time and have the comfort of knowing that somebody else's car is suffering the wear and tear.

DRIVE bases its calculation on two popular holiday destinations — Malaga, in southern Spain, and Portugal's Algarve. To reach Malaga in their own

Ford Cortina, for example, it would cost two adults and one child under 12 about £330 (£100 for the ferry fare, £150 for petrol, £45 for road tolls, and £35 for insurance). The 2670-mile return journey from Calais would take about five days; Faro, in Portugal (2760 miles return), would work out about the same in cash and time.

Now compare these prices with a fly-drive deal that would be possible under Sir Freddie's part-charter-fare proposals and a typical unlimited-mileage car-hire package. For both Malaga and Faro, the cost (inclusive of insurances and local taxes) would be £245 (including seven days' Fiat 127 hire), or £275 (including 10 days' Fiat 127 hire).

Stan Petherbridge, head of the AA's ports and agencies unit and one of the country's experts on cross-Channel travel, is well aware of the threat that Laker could pose for the ferry companies. 'It could have serious repercussions,' he says, 'even leading to some ferry companies amalgamating.'

That's bad news for Townsend Thoresen, which has just

spent £51million on three new ships — the biggest and fastest cross-Channel ferries built so far — for 50% of its business is transporting private cars.

But Townsend could be playing Laker at his own game by the mid-1980s: the firm has options on three giant airships currently under development on the Isle of Man.

Slipped discs

IN THE WAKE of DRIVE's investigation into dangerous disc-brake pad replacements (March-April 1979), Britain's Quality Assured group of brake manufacturers has tested 11 more 'pirate' brands on sale in the UK. Its chilling findings: four makes failed the tests, and another wasn't entirely satisfactory.

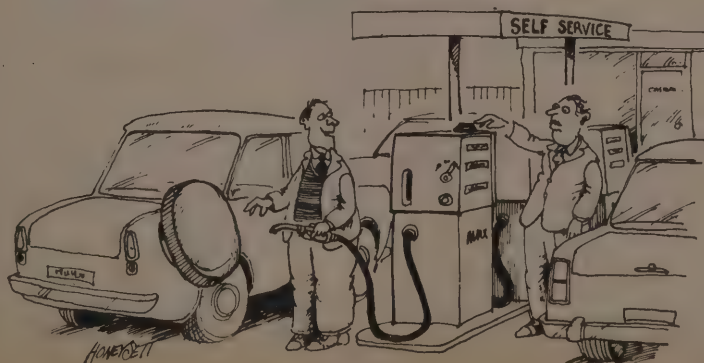
1906 First AA badge issued. The crossed-over As were used until 1967, and were adopted by automobile associations worldwide.

The characteristics of two of the pads changed completely after becoming hot, causing severe braking imbalance on the front wheels. There was also a serious risk of the pads shearing from their retaining plates when the brake pedal was applied hard.

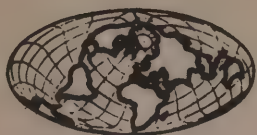
Altogether, QA has examined 43 different pads, and only 19 of these have proved acceptable; 16 failed to pass even the group's minimum standards.

The consequences of having these faulty pads fitted doesn't bear thinking about. They can spin a car out of control, lock up the wheels too early, fade disastrously, and wear out up to 20 times faster than reputable replacements.

What is being done to outlaw



'I was always forgetting petrol caps until I got this one.'



AA

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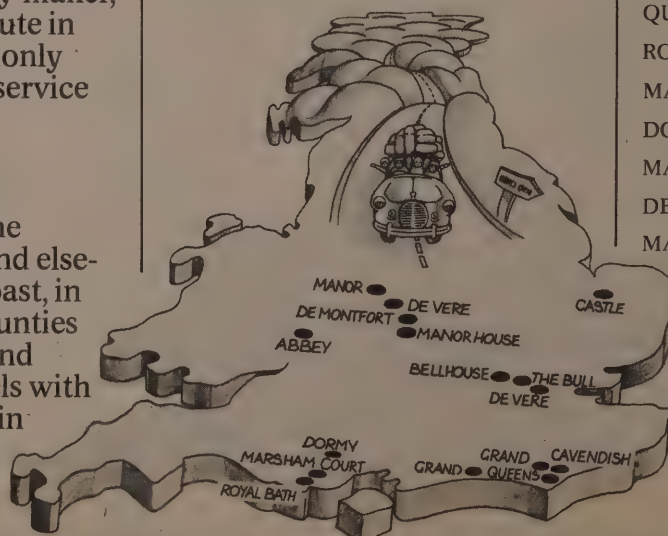
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the potentially lethal makes? Says QA: 'Officialdom appears to be biding its time until European legislation is formulated and adopted. But that day could be 18 months off.'

And now for something...

AFTER INSISTING for 50 years that the spare gallon in the boot be kept only in a metal canister, the government looks set to approve the storage of petrol in a plastic container because ... it's safer.

1908 First AA Handbook. Latest print run of nearly 5 million takes total printed to 77.2 million — a sure entry in Guinness Book of Records.

This change of heart has taken place 10 years after the British Plastics Federation first drew up a draft British Standard to make this possible. Now, the Health and Safety Executive seems likely to permit petrol containers to be made of black, high-density polyethylene. 'But,' says BPF technical division head Colin Parkhouse, 'we don't expect the new legislation before next year.'

Unlike metal, plastic doesn't rust. While steel containers with welds weakened by rust can explode with horrific results in a fire, there is no danger of a big bang from a plastic canister. Says Parkhouse: 'You simply don't get the same pressure build-up. The container will split before that happens and discharge the fuel. Obviously this will still ignite, but it won't go off like a bomb.'

The law has recently been changed to allow UK vehicle

petrol tanks to be made of plastic, and the BPF hopes that car manufacturers will make the switch. The weight saving alone, it says, could save 250,000 gallons a year.

Rear view

MANY organisations have published books about themselves to mark a particular milestone, usually an anniversary of some kind. But *The AA, A History of the First 75 Years of the Automobile Association 1905-1980* is much more than just a history of the world's largest motoring organisation. It is also a unique, beautifully illustrated record of motoring development in the UK since the turn of the century. Many of the pictures have never before been published — and you can sample some of them on pages 55-77 of this DRIVE.

In fact, the work promises to be a collector's item, for fewer than 1000 first editions are to be made available to the general public. Released on 21 May, it can be obtained for only £15.45 (plus 95p postage and packing) from AA Mail Order (Publishing Division), Fanum House, Basingstoke, Hants RG21 2EA.

1908 AA agents appear at Channel ports to assist Continent-bound members. Today, AA Travel organises more than 400,000 Channel-crossings and holidays a year.

Dear doctor

THE AA strongly opposes the increase in emergency hospital-treatment charges for motorists injured in road accidents. Among changes introduced on 1 April was the raising of the



NO SOONER had DRIVE's test Lotus Esprit 701 been returned to the factory (see pages 40-42) than news arrived of the Lotus that the factory should have sent us ...

Known as the Essex Commemorative Lotus Esprit Turbo, it's a new Giugiaro body design with a specification to match its pedigree. As you'd expect, the claimed performance is shattering: 0-30mph in 2sec, 0-60 in 5.5sec, and a claimed top speed of 152mph. A great deal of time and attention has been expended on the

aerodynamic efficiency of the Turbo — note the skirt's low hemline — and doesn't it look the part?

Inside, the car has been given the no-expense-spared treatment, with air-conditioning as standard, a top-notch radio built into the car's roof, and four loudspeakers to overcome the engine's howl. All the trim is real leather.

This most-sophisticated package yet from the Lotus stables has a price to match: only folks with £21,000 need apply.

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maximum inpatient bill — up from £200 to £1250.

Says AA director general Olaf Lambert: 'We believe that to levy any additional charge on one section of the community is iniquitous. The motorist is alone in having to pay twice for his treatment by the National Health Service.'

'Factory workers who suffer industrial injuries and diseases are not called on to contribute further. Nor are the victims of train, ship or aircraft disasters, or sportsmen. Those injured at home are not called on to pay towards their treatment.'

'For these reasons, the Association considers the payments are unjust. The taxation

currently levied on drivers, cars, fuel and excise is sufficient to cover all their attributable costs and more, including the treatment of accident victims.'

'We have made our views known in the strongest possible terms to the government, and will continue to do so at every opportunity.'

Insurance companies have been liable to pay for motorists' hospital treatment since 1930. As a result of the increase, the cost of claims is expected to rise by 2½% — and premiums accordingly.

Golf links

IF THE NEW Volkswagen Jetta looks familiar, cover up its notchback and you'll recognise

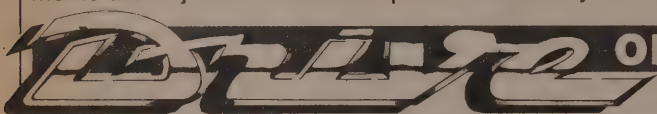


what hatched this rival to the Ford Cortina and Renault 18.

Named after an Atlantic windstream, the Jetta's designed to sail VW out of the becalmed hatchback market and into the more-profitable

saloon-car business — where big-spending fleet buyers rarely like Golf.

We had to apply our tape measure before believing that the Jetta's 14in of extra length over the Golf gives one of the



ON-THE-ROAD NEW-CAR PRICE-GUIDE

What's it called? How much does it cost? DRIVE's superguide to the latest prices of new cars currently available in Britain tells you all you need to know, immediately, whether you're buying or just browsing. And our prices aren't just what the manufacturer says: we tell you the size of the cheque you can expect to write to put your new Mini or Rolls on the road, seatbelts, numberplates, road-fund licence and delivery paid. Want to know more? Well, if the car of your choice has a DRIVE/AA road-test report number beside it, you can have a copy of the best car criticism in the business. AA members can apply to their regional AA office — address in *Handbook*. Otherwise, write to DRIVE New-Car Price-guide, Fanum House, Basingstoke, Hants, RG21 2EA. But we must now ask readers who request more than one to pay 10p for each report.

(a) denotes road test on automatic model only; delivery charges where applicable estimated on an average 200 miles

Model	Manual	Auto	DRIVE/AA Road Test
AC (14 dealers)			
3000ME	13440	—	
ALFA ROMEO (142 dealers)			
Alfasud Super			
1.3 (1350)	3950	—	D5/78
Super 1.5	4150	—	
Ti 1.5	4350	—	D6/79
Sprint Veloce	5450	—	
Giulietta 1.6	5150	—	D25/79
1.8	5450	—	
2000L	6050	—	
GTV2000	6850	—	
GTV2000SE	8048	—	
ASTON MARTIN (28 dealers)			
V8	30107	30107	
V8 Vantage	32608	—	
V8 Volante	38108	38108	
Lagonda	—	50042	
AUDI (355 dealers)			
80LS	5509	5863	
GLS	6008	6361	D18/79
GLE	7216	—	
100 Avant L	6307	—	
L5S	6811	7369	
GL 5S	7565	8122	
L5D	7625	—	
Avant GL 5S	7752	8310	RI176
GL 5E	7969	8528	D8/78
CD 5E	—	9982	
Avant CD 5E	—	10449	
AUSTIN MORRIS (1850 dealers)			
Mini 850 City	2619	—	RTR340
850 Super	2877	—	
1000 Super	2949	3396	D3/78
Clubman			
(1098cc)	3255	—	RTR410
Clubman			
(998cc)	—	3702	
estate			
(1098cc)	3534	—	
estate			
(998cc)	—	3981	
1275GT	3644	—	
Allegro 1100DL	3340	—	
Mk 3 1.1 4dr	3470	—	
1300 2dr	3466	3913	
4dr	3596	4043	
1300L 2dr	3841	—	
4dr	3945	4350	
1300HL 4dr	4311	4758	
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1300L estate	4120	4567	8014A
1500L 4dr	4046	—	

1500L estate	4294	—	D9/79
1500HL 4dr	4484	—	
1750L 4dr	—	4487	
1750L estate	—	4735	
1750HL 4dr	4650	4925	RI182
1750HL estate	5077	5482	
Vanden Plas			
1500 4dr	5385	5826	
Marina 1300	3560	—	
4dr	3702	—	
1300L 2dr	3834	—	
4dr	3945	4350	RTR392
1300HL 4dr	4352	4757	
1300 estate	4186	—	
1700 4dr	3971	—	
1700L 4dr	4214	4619	
1700HL 4dr	4651	5056	D4/79
1700 estate	4437	—	
1700L estate	4679	5084	
1700HL estate	5077	5482	
Maxi 1750	4531	5008	RTR263
1750HL	4791	5268	
1750HLS	4921	—	805
Princess 1700L	4578	5083	
1700HL	5015	5520	
1700HLS	5498	6003	
2000HL	5290	5795	
2000HLS	5771	6276	
2200HLS	6271	6776	D11/78
BENTLEY (78 dealers)			
T2 Series	—	39390	
Corniche	—	58563	
Convertible	—	62189	
BMW (144 dealers)			
316	5311	—	RI149
320	6680	7117	
323i	7761	8198	D12/79
518	6866	—	
520	7983	8420	D11/78
525	9101	9584	
528i	10326	10808	
635CSi	18951	18951	
728i	12056	12606	
732i	13854	14404	
735i	15606	15980	
BRISTOL (0 dealers)			
412 S2			
convertible-			
saloon	—	32817	
412/S3			
Beaufighter	—	38098	
603 S2	—	39318	
BUICK (5 dealers)			
Century	—	9578	
CADILLAC (5 dealers)			
Seville Elegante	—	21769	
Elegante (lhd)	—	19396	
Seville	—	18362	

Seville (lhd)	—	15989	
Fleetwood			
Brougham			
d'Elegance	—	15869	
CATERHAM CARS (0 dealers)			
Super Seven TC	5791	—	
1600GT	5073	—	
CHEVROLET (5 dealers)			
Caprice Classic	—	12904	
Classic (lhd)	—	10680	
Classic estate	—	13028	
Classic estate	—	—	
(lhd)	—	10805	
Monte Carlo	—	—	
coupe	—	9878	
Corvette (lhd)	—	12228	
CITROËN (270 dealers)			
2CV6	2318	—	RI118
Dyane	2549	—	D1/79
Visa Club	3445	—	
Super	3562	—	
GS special	3633	—	
estate	3899	—	
GS 1220 Club	3766	—	RTR384
Pallas	4182	4425	
estate	4021	—	D8/79
GSA (1299cc)			
Club	4193	4348	
Pallas	4532	4687	
estate	4406	4663	
CX Reflex	5733	—	
Athena	6711	—	
2400 Pallas	7657	7872	
2500 Diesel	—	—	
Super	7235	—	
Diesel Pallas	7857	—	
2400 Pallas	—	8360	
Injection	—	—	
GTI	8337	—	
Prestige	—	11122	
Injection	—	—	
2400 Super	—	—	
estate	7155	7505	
5-speed	7290	—	
2500 Diesel	—	—	
Super estate	7558	—	
5-speed	7694	—	
Familiale 2400	—	—	
Super	7284	7834	
5-speed	7420	—	
2500 Diesel	7685	—	
5-speed	7821	—	

Celeste 1600ST	4549	—	
GS	4709	—	D5/78
2000GT	5049	—	
Sigma 1600GL	4709	5054	
2000GLX	5349	5694	RTR432
estate	5949	—	
Sapporo 2000	6649	6994	
DAIHATSU (82 dealers)			
F20 soft top	5320	—	
hard top	5486	—	
F50 soft top	—	—	
(diesel)	5771	—	
hard top	—	—	
(diesel)	5937	—	
Charade XG	3101	—	
XTE	3471	—	
DATSUN (400 dealers)			
New Cherry 3dr			
hatchback	2898	—	RI179
GL 3dr	3129	—	RI179
4dr saloon	3192	—	RI179
5dr estate	3408	—	RI179
3dr coupé	3802	—	RI179
Sunny 1200GLS			
2dr	3388	—	
4dr	3495	—	D20/79
1400GLS 2dr	—	3860	
4dr	—	3957	
1200 estate	3729	—	
1400 coupé	—	—	
4-speed	3829	—	
1400 fastback	—	—	
estate	4031	—	
Violet 140J Mk 3	3927	—	
160J Mk 3	4017	4315	
SSS coupé	4501	—	
Bluebird 160B			
Mk II	4122	—	
180B	4230	—	
180B estate	—	—	
Mk II	4584	—	
180B SSS Mk II	4730	—	
Laurel 2litre			
Mk II (PAS)	5628	5968	D11/78
2.4litre (PAS)	6328	6668	
Skyline 240K			
coupe	7280	7620	
280ZX 2-seater	8760	9100	
280ZX 2+2	9714	10054	
280C saloon	7226	7566	
280C estate	7054	7394	
DE TOMASO (2 dealers)			
Pantera GTS	19278	—	
Longchamp	—	21502	
Deauville	—	24635	
FERRARI (18 dealers)			
Dino 308GT4	17642	—	
308GTB	19081	—	
308GTS	20009	—	
400GT	31916	31916	
512B	33188	—	
FIAT (406 dealers)			
126	2222	—	
de Ville	2440	—	D1/79
127 900L 2dr	3000	—	RI137
1050L 3dr	3200	—	
1050CL 3dr	3413	—	RTR429
Sport	3771	—	809

1909 AA legal service begins; advises one member on his car-washing water-rate bill! Department now handles thousands of (car-related only) enquiries each year, and has had numerous laws changed.

biggest boots in its league. It has more usable space than a Cortina's, but its single skin makes it vulnerable to internal knocks. Cleverly, the notchback conversion has added so little extra weight and drag that Jettas should be only fractionally slower and thirstier than their Golf counterparts.

Jet-setter of the five model range is the GLi — based on DRIVE's favourite Golf, the 1.6GTi

— a 110bhp, 110mph saloon that should cover 0-60mph in under 10sec. The familiar 1.3litre unit powers the cheapest L and GL versions, but the big sellers should be the 1.5litre LS and GLS. This popular engine has, in manual form, been denied to Golf owners for a year, and is now a Jetta exclusive — a 70bhp unit that's willing to exceed all its speedometer gearchange points, will cruise more quietly at 70mph than the GLi, and top 96mph.

On an 800-mile Continental dash, DRIVE couldn't persuade its laden 1.5GLS to do worse than 26mpg, while the GLi delivered 27mpg. A believable 30mpg-plus is the overall claim for all Jettas, and, if that's not

enough for you, it's only a matter of time before the 1.5litre diesel joins the range.

Stiffer front springs and, for the GLi, a heavy-duty rear anti-roll bar, help the ½cwt-heavier Jetta approach Golf standards of ride and handling — though the stiffer GLi can twitch in response to crosswinds and steering corrections. The 1.6 and 1.5litre models also get new, larger front brakes and servo, an auto choke and wide wheels, and all Jettas have detail improvements such as 5mph-impact bumpers and a claimed doubling of the expected brake-pad life.

Available with four doors only, Jettas range from £4201 to £6109 on the road, to bridge the

1911 First AA hotel inspector goes to work; Association announces that countrywide reports will be completed in one year. Today, AA employs 30 people making 14,000 hotel inspections each year.

gap between Golfs and Passats and tempt touring Golf partners who must now take the twins on holiday, too.

What next from VW? DRIVE reckons that the ageing Passat will be next for the notchback treatment.

Unhappy returns

MOTORING ABROAD this summer? Then be warned that it can now cost £500 or more to repatriate

ON-THE-ROAD NEW-CAR PRICE-GUIDE

128 1300CL	3504	—	RTR402
CL estate	3771	—	
X1/9 1500	5684	—	D14/79
Mirafiori 1300CL	3976	—	
4dr	4105	—	
1600CL 4dr	4500	5203	
estate	4751	5054	RTR412
Supermirafiori			
1600TC	5025	5352	D10/78(A)
estate	5209	5536	
Mirafiori Sport	5599	—	
132 2litre	5893	6234	D12/78
Bellini	6114	6453	
Strada 65L			
1300 3dr	3509	—	
65L 1300 5dr	3627	—	
65CL 1300 3dr	3794	—	
65CL 1300 5dr	3930	—	
75CL 1500 3dr	4229	4568	
75CL 1500 5dr	4349	4658	D17/79
900T Super			
Amigo	4415	—	
900T Amigo XL	4827	—	

FORD (1240 dealers)			
Fiesta 950	3056	—	RTR417
1100	3222	—	
950L	3404	—	D16/79
1100L	3558	—	
1100GL	3805	—	
1300GL	4005	—	
1100S	3904	—	
1300S	4104	—	RI181
1100 Ghia	4182	—	RI170
1300 Ghia	4381	—	
Escort 1100			
Popular Plus	3254	—	
1100 Popular			
Plus 4dr	3386	—	
1300 Popular			
Plus	3389	—	D4/78
1300 Popular			
Plus 4dr	3518	—	
1100L	3510	—	
1100L 4dr	3641	—	
1300L	3609	3973	
1300L 4dr	3741	4105	
1600L	3955	4319	
1300GL	3883	4247	
1300GL 4dr	4016	4380	
1600GL	4230	4594	
1300 Sport	4178	—	
1600 Sport	4295	—	
1300 Ghia	4386	—	
1300 Ghia 4dr	4520	—	
1600 Ghia	4636	5000	D4/79
1100 estate	3478	—	
1300 estate	3657	—	
1300L estate	4005	4369	
1300GL estate	4355	4719	
Cortina 1300	3739	—	
1300 4dr	3879	—	
1600	4095	4459	
1300L	4096	—	RTR372
1300L 4dr	4235	—	
1600L	4451	4815	D22/79
1600GL	4925	5289	
2000GL	5183	5547	
2300GL	5829	6193	RI183
1600 Ghia	5635	5999	
2000 Ghia	5794	6158	
2300 Ghia	6439	6803	
1600 estate	4534	4898	
1600L estate	4932	5296	

1600GL estate	5412	5776	
2000GL estate	5670	6034	RTR413
2300GL estate	6316	6680	
1600 Ghia			
estate	6108	6472	
2000 Ghia			
estate	6267	6631	
2300 Ghia			
estate	6912	7276	
Capri 1300L	4114	—	RTR373
1600L	4336	4700	
1600GL	4685	5049	RTR342
2000GL	4968	5332	
1600S	5325	—	
2000S	5549	—	RI166
3000S	5965	—	
2000 Ghia	6154	6518	
3000 Ghia	—	6964	RI114
Granada 2000L	5850	6294	RI128
2300L	6476	6920	
2300GL	7824	8268	
2800GL	—	8389	
2800GL	9022	9466	
2300 Ghia	9181	9625	
2800 Ghia	—	9745	
2800L Ghia	10187	10631	802(A)
2000L estate	6461	6905	
2300L estate	7087	7531	
2300GL estate	8066	8510	
2800GL estate	—	8631	D8/78(A)
2800L GL			
estate	9256	9700	
2800 Ghia			
estate	—	10097	D8/78
2800L Ghia			
estate	10539	10983	
2100 diesel	6311	6755	
RS2000	4893	—	
Custom	5517	—	

FORD USA (15 dealers)			
Mercury Monarch			
Ghia (rhd)	—	9428	
Mustang Ghia			
Turbo (lhd)	7879	—	

HONDA (236 dealers)			
Civic 1300 3dr	3128	3358	
1300 5dr	3328	3558	RI155
Accord 3dr	4328	4598	RTR420
4dr	4518	4788	D4/79
Executive DL	—	5588	
Prelude	5088	5358	806

JAGUAR-DAIMLER (286 dealers)			
Jaguar XJ6 3.4	14130	14130	RTR380
XJ6 4.2	15481	15481	
XJ12 5.3	—	18298	RTR305
XJS	—	19329	RTR394
Daimler			
Sovereign 4.2	16475	16475	
Double Six	—	19287	
Vanden Plas 4.2	—	20678	
Double-Six			
Vanden Plas	—	25137	

JEEP (82 dealers)			
CJ7 soft top	5653	—	
hard top	6068	—	
Renegade			
soft top	7197	—	
hard top	7570	—	
CJ Golden Eagle	7197	—	
hard top	7570	—	

Cherokee 4dr			
(6-cyl)	10529	10749	
S (6-cyl)	—	11509	
SV8	—	11929	D2/79
Chief V8	—	12149	
Golden Eagle	—	12679	

LADA (200 dealers)			
1200	2591	—	RI175
estate	2830	—	
1300	2809	—	D4/79
1500 estate	3027	—	
1600	3230	—	RI173
1600ES	3630	—	RI173
Niva	4701	—	

LANCIA (120 dealers)			
1600	5146	—	
2000	5439	5894	RI171M
2000ES	5819	6274	
Beta coupé	5113	—	
1600	5828	—	
2000	6304	—	
Beta Spyder			
2000	6851	—	
Beta HPE 1600	6576	—	
2000	7108	—	
Gamma Berlina	8012	—	
Gran Turismo	10011	—	

LAND-ROVER (342 dealers)			
Land-Rover	5601	—	RTR333
diesel	6406	—	
lwb	6516	—	
lwb (diesel)	7321	—	
lwb 6-cylinder	6631	—	

LOTUS (33 dealers)			
Elite 501	15580	15977	
502	16594	—	
503	17208	—	
504	—	17437	
Éclat 520	13793	—	
521	14872	15269	
522	15919	—	
523	16507	—	
524	—	16768	
Esprit 701	15504	—	
702	15784	—	

MASERATI (5 dealers)			
Merak SS	19054	—	
Kyalami	25757	27189	
Khamsin	28248	—	

MAZDA (226 dealers)			
1300 hatchback	3655	—	D4/78
1300 hatchback			
5dr	3655	—	RTR424
1.4 Special			
hatchback	4055	—	
1400 hatch 5dr	—	4155	
1400 estate	4055	—	D10/79
Montrose			
1600GL	4505	—	
GLS	4805	—	
2000GLS	5105	5421	D23/79
GLS coupé	5605	5955	
2000 estate	5755	6155	
RX-7	6705	—	
TWR coupé	7355	—	

MERCEDES-BENZ (98 dealers)			
200	7928	—	

200D	8104	—	
230	—	9070	
230C	—	11057	
240D	9086	9682	
240D lwb	14199	14639	
240TD estate	10586	10586	
250	—	10490	
250T	—	11864	
250 lwb	—	14199	
300D	—	11302	
280E	—	12507	D11/79
280SE	—	14614	
280CE	—	13581	
280TE estate	—	13993	
350SE	—	16996	
350SL	—	16825	
450SE	—	16295	
450SEL	—	19317	
450SL	—	17976	
450SLC	—	21143	
450SEL 6.9	—	30632	

MORGAN (18 dealers)			
4/4 1600	5772	—	
4-str	6363	—	
Plus 8	8294	—	

MG (1746 dealers)			
MG Midget	3957	—	
MGB Sports	5300	—	
MGB GT	6029	—	D13/79

OPEL (237 dealers)			
Kadett L 2dr	3613	—	
L 4dr	3758	—	
L 3dr estate	4034	—	
LS 2dr	3937	—	
LS 4dr	3984	—	
LS 3dr	3943	—	8016
LS 5dr	4090	—	
LS 3dr estate	4324	—	
LS 5dr estate	4368	—	
GL 4dr	4461	—	
GL 5dr	4564	—	
GL 5dr estate	4764	—	
Berlina 4dr	4933	—	
Berlina 5dr	5015	—	
SR	4830	—	
Ascona SR	5179	—	
4dr L	4204	—	
4dr GL	4608	5055	
4dr GL 2.0	4841	5288	
Berlina 2.0	5418	5865	
Manta 2.0			
Berlinetta			
hatchback	6015	6462	
coupé	5879	6326	
Rekord 4dr	5602	6078	
Berlina	8124	6600	D12/78
Berlina HL	7041	7517	
estate DL	6468	6944	
saloon DL			
diesel	6900	7376	
estate DL			
diesel	7442	7918	
Senator 2.8S	9020	9586	
CD	—	11838	
Monza coupé	12158	12724	

PANTHER (35 Lima and 3 de Ville dealers)			
J72 4.2	24135	24558	
de Ville 5.3			
saloon	—	58390	
convertible	—	72355	

a broken-down car from Spain, for example. And, with Continental hospital charges starting at £60 a day, injury or illness in Europe can be expensive.

These contingencies are just two good reasons why you should arrange AA 5-Star insurance before you go. Another is that, this year, the scheme offers substantial benefit increases in the categories of vehicle, touring and personal security. There's also an extension to the emergency-repair cover, which will pay the first

£50 of any repair bill including labour costs — even if you break down in Britain en route to or from the Channel ferry.

The maximum contribution towards the location of spare parts goes up to £100.

Cover-up job

IT WAS HERALDED as an all-new British sports car, but further details of the £33,000-plus Desande Roadster were not easy to come by at its launch.

DRIVE's drooling tester eventually discovered that under this true Brit's 1930s bodywork



1912 First AA roadside telephones. Today, an AA key opens 933 doors.

lurks a little-changed Ford Thunderbird — complete with exhaust-emission control, as used on the other side of the Atlantic. It seems that a company called Neptune cuts off the original Ford bodywork and hands the innards to Grand Prix Metalcraft, which adds the aluminium panelwork and luxury trim. According to Desande it is this conversion work that

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ON-THE-ROAD NEW-CAR PRICE-GUIDE

Lima	8390	8813	
Lima Turbo	11090	—	
PEUGEOT (275 dealers)			
104ZL	3298	—	
104ZR	3629	—	
104ZR Custom	3827	—	
104ZS	4228	—	RI146
104GL	3428	—	RTR406
104GR	3758	—	
104SR	3905	—	RI190
104SR Custom	4227	—	
104S	4357	—	
305GL	4218	—	D9/78
305GR	4558	—	D9/78
305SR	4998	—	RI162
305SR Custom	5379	—	
305GRD	5281	—	D19/79
304GL estate	3910	—	RTR386
304SL estate	4207	—	
504GR	5054	5848	RI174M
504GRD	5786	—	RTR425
504 estate	5583	—	
GR estate	6279	6873	RI159
Family estate	6659	7253	
D estate	6296	—	
Family diesel estate	7480	—	
505GR	6357	6951	
SR	6882	7476	
TI	6858	7452	
STI	7579	8173	803
GRD	7172	—	
SRD	7696	—	
604SL	8769	9363	RTR391
TI	10364	10828	RI167
D Turbo	9667	—	
POLSKI FIAT (123 dealers)			
125P	2584	—	RTR379
estate	2940	—	
Polonez	3500	—	
PONTIAC (5 dealers)			
—	9864	—	
PORSCHE (26 dealers)			
924	9276	9755	D7/78
924 Lux	9755	10133	
924 Turbo	13802	—	
911SC (coupé or targa)	16282	—	
911 SC (sport coupé or targa)	17527	—	
928	21900	21900	
928S	25424	25424	
Turbo	28123	28123	
PORTARO (25 dealers)			
Pampas 250D	6660	—	
250DL	7020	—	
250DPU	7151	—	
250DP	7288	—	
RELIANT (184, and 76 Scimitar dealers)			
Robin 850	2755	—	
estate	3005	—	
Super Robin 850	3155	—	
estate	3355	—	D21/79
Kitten DL	3437	—	
DL estate	3697	—	
Scimitar GTE	10481	10481	RTR303
GTC	11517	11517	
RENAULT (568 dealers)			
4TL	3143	—	RI161
4GTL	3352	—	8017
5	3132	—	
5TL	3521	—	D3/78
5GTL 3dr	3723	—	RI143
5dr	3880	—	

STS	4108	—	RTR370
5 auto	—	4212	RI172
5 Gordini	5270	—	803
ROLLS-ROYCE (78 dealers)			
12TL	4014	—	RTR385
estate	4470	—	RTR374
14TL	3954	—	RTR414
14GTL	4149	—	
14LS	4208	—	
14TS	4590	—	D6/78
18TL	4171	—	
18TS	4582	—	RI189
18GTL	4829	—	
18 auto	—	5259	
18GTS	5296	—	
18TL	—	—	
estate	4623	—	
18LS	—	—	
estate	4881	—	
18TS	—	—	
estate	5076	5412	
20TL	5662	—	RTR409
20LS	6122	6458	
20TS	6840	7176	D12/78(M)
30TS	8170	8507	RI134(M)
30TX	9643	9979	RI134
ROVER-TRIUMPH (946 dealers)			
Rover 2300	6717	7172	RI186
2600	7841	8081	D8/78
3500	9817	10067	RTR428(M)
V8S	11429	11679	
Range Rover 3.5	12538	—	D2/79
Triumph Spitfire	4444	—	RTR376
hardtop	4609	—	
Dolomite 1300	4133	—	
1500	4435	4867	RTR345
1500HL	4935	5367	RTR345
1850HL	5501	5933	RTR288
Sprint	6675	6834	RTR332
TR7 fixed head	6312	6591	RTR401
drop head	6095	6374	
SAAB (205 dealers)			
99GL 2dr	5410	—	
99GL 4dr	5895	6405	RTR419
99 2dr Turbo	8075	—	
900GL 3dr	6615	—	
900GLS 3dr	6910	7485	
900GLS 5dr	7130	7775	
900EMS 3dr	8100	—	
900GLE 5dr	9035	9025	
Turbo 3dr	10485	—	
Turbo 5dr	10885	—	
SKODA (285 dealers)			
S110R coupé	2274	—	
105S	2149	—	
105L	2343	—	D1/79
120L	2395	—	
120LE	2594	—	
120LS	2843	—	RI169
120LSE	3044	—	
SPARTAN (0 dealers)			
Sports 2dr	4790	—	
2+2	5145	—	
SUBARU (86 dealers)			
1600DL 2dr	3313	—	
4dr	3462	3873	D6/78
Custom 4dr	3649	—	
coupé	3325	—	

GFT	4621	—	
GLF	4123	—	
4wd	5199	—	
DL estate	4322	—	
4wd estate	5368	—	D2/79
SUZUKI (23 dealers)			
SC100	2550	—	
LJ80 4wd	3350	—	
LJ80V 4wd	3800	—	
TALBOT (650 dealers)			
Sunbeam 1.0LS	3230	—	RI164
1.3LS	3484	3879	
1.0GL	3529	—	
1.3GL	3783	4178	
1.6GL	3940	4335	D6/78
1.6GLS	4475	4870	
1.6Ti	4786	—	
Lotus	7325	—	
Avenger 1.3LS	3638	4033	D9/78
1.6LS	3795	4190	
1.3GL	4216	4611	
1.6GL	4373	4768	RTR405
1.3LS estate	4051	4446	
1.6LS estate	4208	4603	
1.3GL estate	4855	5050	
1.6GL estate	4812	5207	
1.6GLS estate	5004	5399	
Horizon LS			
1118cc	3673	—	
LS 1294cc	3819	—	
GL 1118cc	4173	—	D5/79
GL 1294cc	4318	—	
GLS 1234cc	4706	—	RI177
SX 1442cc	—	5340	
Alpine LS			
1294cc	4264	—	RI151
LS 1442cc	4460	—	
GL 1442cc	4946	—	RTR381
GLS 1442cc	5727	—	
SX 1592cc	—	6615	
2litre	5384	5742	RTR308
Matra Rancho	5570	—	
TOYOTA (234 dealers)			
Starlet GL 3dr	3230	—	D3/79
GL 5dr	3331	—	D3/79
1200GL 3dr	3460	—	
1200GL 5dr	3560	—	RI187
Corolla			
30-1200DL 2dr	3144	—	
30-1200DL 4dr	3263	3469	RTR399
30-1200 5dr	—	—	
estate	3531	—	
1600 Liftback	3915	—	
Carina 1600DL	4054	4343	D10/78
1600DL	—	—	
estate	4314	—	
Celica 1600ST	—	—	
coupé	4533	—	
2000ST	—	—	
Liftback	4929	—	RTR423
2000XT	—	—	
Liftback	5818	6022	
2000GT	—	—	
Liftback	6134	—	
Cressida			
2000DL	4710	4985	
estate	5026	5341	
Corona GL			
Liftback	5404	5604	RI185
Crown 2600	—	8126	
TVR (20 dealers)			
3000M	8196	—	
convertible	8931	—	
Taimar	9185	—	D7/78
Turbo	12196	—	
convertible	12913	—	
Taimar Turbo	13185	—	

Tamsin	13001	—	
VAUXHALL (650 dealers)			
Chevette E 3dr	3268	—	
L 3dr	3567	3926	
GL 3dr	3952	4311	D3/79
E 2dr saloon	3219	—	
E 4dr saloon	3349	—	
L 2dr saloon	3518	3877	
L 4dr saloon	3848	4007	RTR396
GL 4dr saloon	4033	4392	
L 3dr estate	3971	4330	
Astra L estate	4553	—	
GL hatchback	4782	—	
Cavalier 1300L	3982	—	
1300L 4dr	4113	—	D9/78
1600L	4198	4645	RTR382
1600L 4dr	4329	4776	RI163(a)
1600GL 4dr	4810	5257	
2000GL 4dr	5062	5509	RI152
2000GLS 4dr	5543	5990	
1600GL	—	—	
sports hatch	5138	5585	
1600GLS	—	—	
sports hatch	5619	6066	
2000GLS	—	—	
sports hatch	5872	6319	RI184
Carlton 2000	6033	6509	D12/78
5dr estate	6625	7101	
Royale 2800	10280	10280	D24/79
coupé	10827	10827	
VOLKSWAGEN (355 dealers)			
Polo N900 3dr	3236	—	
L900 3dr	3559	—	RTR408
GLS 1100 3dr	3921	—	RI183
Derby			
S1100 2dr	3422	—	
LS 1100 2dr	3771	—	D3/79
GLS 1300	—	—	
2dr	4126	—	RI168
Golf N 1100 3dr	3572	—	RTR411
L 1100 5dr	4039	—	RTR411
LD (diesel)	—	—	
1500 5dr	4855	—	RI160
LS 1300 3dr	4226	—	
GLS 1300 5dr	4693	—	
GLS 1460 5dr	—	5052	D6/78
GTI 1600 3dr	5256	—	807
Jetta 1.3L	4201	—	
GL	4637	—	
1.5LS	4724	5029	
GLS	5098	5403	
1.6GLI	6109	—	
Passat LS 1600	5192	5526	RTR388
GLS 1600 5dr	5621	5955	RI165
LS estate	5491	5825	
GLS estate	5983	6317	
LD estate (diesel)	5905	6239	
Scirocco GLS	—	—	
1600 coupé	5852	6237	D7/79
GLI	6801	—	
Storm	7297	—	
VOLVO (240 dealers)			
343DL	4302	4526	D10/78
343DL	4601	4827	
244DL	6146	6626	RTR426
SR	6540	7018	
244GL+o/d	7530	7889	RTR426
244GLE	8147	8535	RTR426
244 GLT	8847	—	
245DL estate	6887	7364	RTR368
245GL estate	7601	7961	
245GLE estate	8261	8623	
264GL	8707	9067	
264GLE	9857	10146	
265GL estate	8864	9224	
265GLE estate	9660	10019	801
262 coupé	—	14438	

NOT FOR THE DOWN-MARKET DASHBOARD.

You've just got a new car.
Now, you have to decide how to fill that hole in your dashboard.

Or very possibly, whether to replace the original radio with something rather better.

Choose a Lucas radio, cassette player or combined unit featured in this advertisement and, frankly, you won't be choosing one of the cheapest units on the market.

But then, just look what you get for the money.

Most important of all: really fantastic sound.

Clear, undistorted, and with an excellent bass response.

Then there's reliability.

Very few Lucas units are returned. And judged on that basis, they're considerably more reliable than certain similarly priced, nationally known brands.

And, of course, Lucas offer a whole host of thoughtful—and advanced—features.

Like noise suppression circuits on FM. Take-off leads for electric aerials. Auto-reverse on cassette

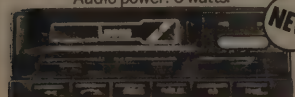
players. Fast forward and reverse buttons that lock, to leave your hands free for driving.

Like to know more about Lucas audio, audio accessories and suppression equipment?

Just complete the coupon, and we'll send you the Lucas audio information pack, plus a list of our dealers.



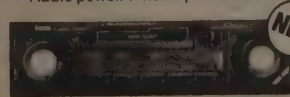
LS 130 PUSH BUTTON RADIO
MW and LW, variable tone control. 5 push buttons, electric aerial take-off lead. Audio power: 6 watts.



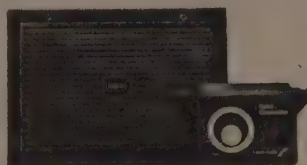
LS 211 STEREO CASSETTE PLAYER
Features a choice of auto-reverse or auto-eject. Locking fast forward and fast rewind. Tape direction indicators, loudness control, illuminated cassette flap. Audio power: 7 watts per channel.



LS 250 RADIO/STEREO CASSETTE PLAYER
MW and LW. Auto-reverse stereo cassette player, locking fast forward and rewind. Audio power: 7 watts per channel.



LS 251 RADIO/STEREO CASSETTE PLAYER
MW and LW push button radio. Electric aerial take-off lead. Separate volume, tone and balance controls. Auto-eject stereo cassette player with fast forward and rewind. Audio power: 6 watts per channel.



LS 450 3D SOUND SYSTEM
An additional amplifier and speaker which boosts bass notes to produce a truer and richer sound.



LS 270 STEREO RADIO CASSETTE PLAYER
AM (MW) and FM stereo radio with noise suppression circuit. Stereo cassette player features auto-reverse, locking fast forward and rewind. Audio power: 7 watts per channel.

Please send me further facts about Lucas audio, plus a list of dealers.

Name _____

Address _____

DM/J

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TELEPHONE: 021-236 5050.



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Founded in 1903, the Provincial Insurance Company has earned a jealously-guarded reputation for providing the best in insurance protection, in many cases pioneering new forms of cover to cater for the developing needs of the insuring public.

But it is not just what we offer, how we offer it matters too. Personal service is our aim, brought to you by friendly, helpful employees at over eighty local offices within the U.K.: on-the-spot advice and assistance whenever you need it.

The right products and the best service: together they form the foundation stones of a group that has grown to world-wide proportions.

Provincial Insurance
Company Limited
Stramongate Kendal Cumbria

this makes the Roadster worthy of the title 95%-British.

Mr Desande, incidentally, is a Belgian now living in Holland who drives a Porsche...

Map readings

AN ENGINE TEST centre will soon be helping Ford engineers at Dunton, Essex, to develop cleaner, more-efficient engines more quickly.

There, a new process known as 'engine mapping' works in conjunction with a computer to record up to 2500 different readings in the course of a single engine test. These give engineers a complete picture of the engine's operating characteristics, and from this master 'map' a computer programme can select the optimum engine settings.

1912 First AA town-plans, showing the best ways through principal cities. Similar plans still on offer, or members can get most in one go by buying *Book of British Towns*.

An engine can also be recalibrated from its map any time in its life to meet new requirements for fuel economy, performance and exhaust emission standards — and Ford claims that the system will enable it to develop engines faster and better than ever before. This is of major importance to motor manufacturers in view of impending tighter restrictions. In the US, for example, government legislation is demanding a 50% improvement in the average fuel consumption of all model ranges between 1978 and 1984, while imposing even stricter standards for emissions.

Pressure groups

AS WE DISCOVERED in a nationwide survey (September-October 1979), tyre-pressure gauges on some garage forecourts do little for road safety and economy. Now, a British company has come up with what it believes to be the world's first electronic touch-button tyre-pressure unit, which offers accuracy to within a decimal point of 1lb/sq in.

1914-1918 Members make the ultimate sacrifice: send their cars to AA for use as ambulances on the Western Front. In 1915 alone, 120 cars converted.

All the customer has to do is select the desired pressure on the touch switches, and connect the airline to the tyre. Silicon-chip technology measures the tyre's pressure, compares it to that required, supplies air until the tyre is just over the top, and then releases it in



VIEWERS OF Dallas — the oilman's *Coronation Street* — got a sneak preview of Triumph's soft-top TR7 last year, but BL Cars waited until March this year to launch the TR7. It should have built in the first place. All

that this handsome £6000-plus drophead needs now is an engine option for the owner who wants a car that goes as fast as it looks. What price the Rover V8?

Meanwhile, Reliant has pro-



duced a convertible version of the Scimitar, to be built alongside the GTE. The whole Scimitar range also gets a new engine, changing down from the 3litre to the lighter 2.8litre V6 power unit from Ford.

pulses until the pressure is correct. An audible warning tells the driver when the job is done.

The unit is being marketed by Forecourt Automation of Launceston, Cornwall, which states ominously that this device has a 'coin-control facility'.

As far as free air is concerned,

1919 AA patrols given motorcycles and sidecars — and tools! — to execute 'light repairs'; known as 'first-aid machines'. Today, motorcycles back in favour and the AA runs a dozen British-built Triumphs in congested areas.



IT PAYS to take out travel insurance — as nine German and Dutch tourists can testify. There they were, holidaying in the Norwegian valley of Jostedal, 150 miles north-west of Oslo, when their vacation was rudely interrupted by avalanches that blocked their way out. If they hadn't taken the precaution of insuring through their respective motoring organisations — ADAC and ANWB — they would have had to bear the cost of flying home and then returning to their vehicles when the roads had been cleared.

Avalanches weren't actually covered by their policies, but the motoring associations came to the rescue and, at no extra charge, airlifted the stranded holidaymakers, their eight cars and a caravan out of the valley by helicopter.

this could be the end of the line!

Trolley to be wise

IT WAS 18 years ago that the last London trolleybus trundled through the capital — condemned to the scrapheap by the diesel double-decker.

Now the trolleybus looks set to make a comeback, according to a report commissioned by the London Transport Committee. Fleets of combined-battery-and-trolleybuses (COMBATs) could be a familiar sight in London by the 1990s, as overhead wiring would be needed for only one-third of routes. Incentives for the changeover are rising oil costs and a 50% increase in petrol prices that is expected to divert about 1 million passenger miles every day on to London's public transport.

AUTOMOBILE ASSOCIATION

Annual General Meeting 1980

NOTICE is hereby given that the Annual General Meeting of the Automobile Association will be held at the Savoy Hotel (Victoria Embankment entrance), London, on 21 May 1980 at 11.30am, to receive the Report of the Committee, to adopt the Accounts and Balance Sheet for the year ended 31 December 1979, to elect members of the Committee, to elect and appoint Auditors and to deal with any other business which the Meeting is competent to transact.

Dated 1 April 1980

By Order of the Committee of the Association

W Lynch, Secretary, Fanum House, Basingstoke, Hants RG21 2EA.

The Report and Accounts are available to members on application to the Secretary.

Private detective

THE SHURLOCK Detector Ultrasonic Millivolt Sensing Vehicle Alarm is a mouthful to say, but it's only slightly bigger than a packet of 20 cigarettes.

Suitable for cars, vans and caravans, the alarm works by

Ordnance Survey MAPS

When you're looking for maps to explore your holiday area in Great Britain, think of Ordnance Survey.

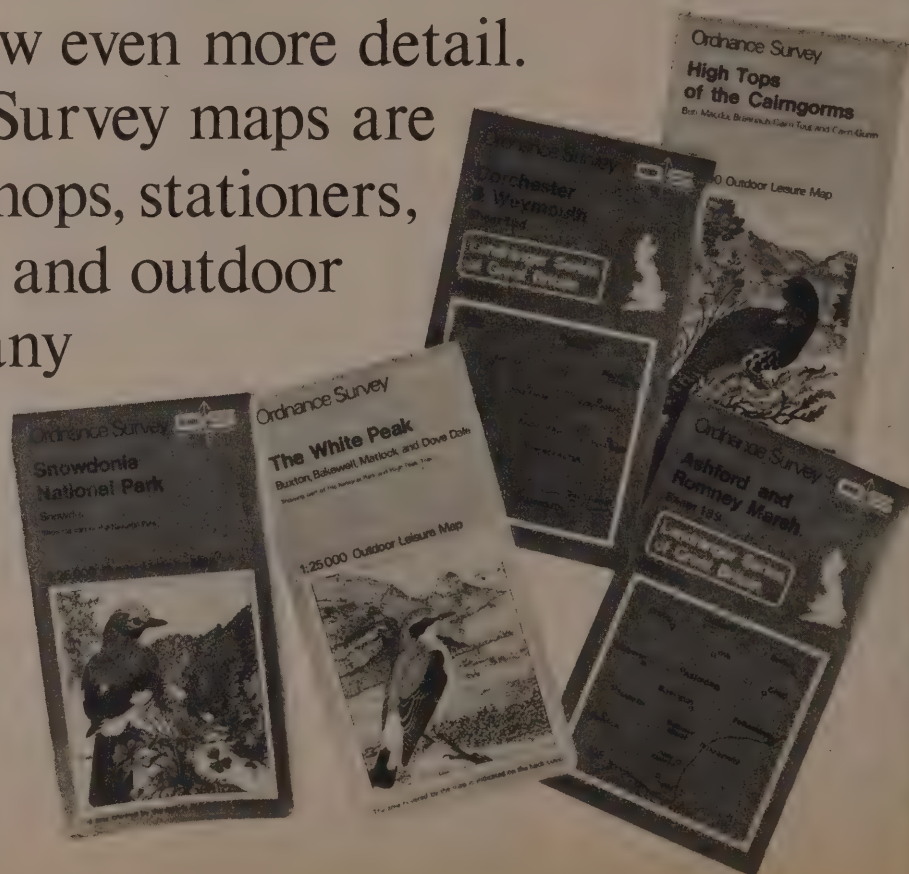


1:50 000 Landranger maps, at a scale of about one and a quarter inches to one mile, give all the information you need to get the most from your leisure time.

Holiday areas are also included in our Outdoor Leisure Map Series. At a scale of two and a half inches to one mile, they show even more detail.

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Ordnance Survey
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Southampton, SO9 4DH

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flooding the vehicle's interior with ultrasonic sound waves. If any movement disturbs the pattern of waves, the alarm is triggered, sounding for 12sec via the car's horn or a siren. The alarm automatically resets itself 12sec after the cause of the triggering has been removed.

The alarm can also be activated by a slight voltage drop, enabling the unit to signal malfunctions in the vehicle's electrical circuits, interior courtesy light and ignition.

Shurlock costs about £45, from most accessory shops.

Tank force

A NEW car-repair technique, which will reduce the cost of rear-end crashes, has been developed by Opel in W Germany. Based on aircraft-construction practice, it also reduces labour by up to 30%.

1920 AA opens a roadside filling-station at Aldermaston, Berks, to 'encourage use of benzole' — a by-product of coal that can be man-made.

Usually, repairs entail removing several parts, such as the fuel tank because of the fire hazard from welding, and seats, windows and seals because of the risk of heat damage. The new method uses a two-part adhesive instead of welding. It has the same stability and strength as a spotweld, and makes the expensive preparatory work unnecessary.

THE COST of law breaking has been hit by inflation. When you next leg it to the police pound to retrieve your illegally parked motor, you'll be writing out an even bigger cheque.

In London, the tow-away fee has gone up £7 to £29, elsewhere it's up to £27, and, on motorways, it's a £6 increase to £30.

Cracked idea

AS THE AA took shape in London in 1905, there lay on a dusty shelf in Paris a broken flask that was to save countless motorists from death and terrible injury.

The glass vessel had been accidentally knocked over two years earlier by Edouard Benedictus while working in his laboratory. But, because of its contents — a dried-out cellulose solution — it didn't splinter.

In 1909, when Edouard read a report of a Parisienne whose throat was cut by flying glass in a taxi accident, the significance of the laboratory mishap struck home. The following year, Benedictus patented a three-ply, strengthened glass with a layer of celluloid in the middle, calling it Verre Triplex.

The Birmingham-based Trip-

lex company, which acquired the British rights to the invention in 1912, is today the UK's leading producer of safety windscreens and windows for motor cars.

RECALL TIME. All Saab 900 Turbos made in 1979 are being recalled for improvements to the insulation on some of the electrics close to the turbocharger unit. The replacement parts, which will be supplied under warranty, comprise a new battery cable, silicon-rubber tubing for the starter cable, and a heat deflector for the battery. For our test of the Turbo, see pages 83-86.

Change in a flash

BOSCH, THE German company best known for its lighting and fuel-injection equipment, is developing an automatic gearbox that's simple enough for car manufacturers to make themselves.

This potentially lethal blow to the specialist auto-box makers is an electronically controlled adaptation of a conventional four- or five-speed manual gearbox and clutch, in which Peugeot and BMW are already showing interest.

Bosch's reason for this altruistic invention? It will supply the electronic controls required...

Going your way

A LONDON traffic expert predicts that the capital's saviour will come in the form of... a maxi-taxi. Westminster Council's chief engineer, Alan Cryer, suggests that a cross between a bus and a cab could well be the answer in traffic.

'I envisage the maxi-taxi filling the gap between the space-squandering bus and the exclusivity of an unshared cab,' says Cryer. 'It would ply for hire near city offices, stations and busy shopping centres. The destination of the first person to hire it would be flashed on a board, and any other passengers heading in that direction would be able to flag it down en route. Its passenger capacity would, ideally, range from seven to 12 people.'

Going our way?

ALMOST HALF of Gt Britain's workers rely on a car to get to the office or factory, according to the AA's latest nationwide survey on vehicle use. In all, 72% of motorists quizzed cited

continued on page 21

1924 First after-dark AA service provided. Now, breakdown service tackles more than 2½million calls every year, and work never stops.

Crest Welcome Breaks

MAKE A WELCOME CHANGE

Crest Hotels have made this summer one to really welcome with a Welcome Break for all the family that won't cost you a fortune.

WELCOME WEEKENDS

A two-night weekend dinner, bed and breakfast package available from Friday to Sunday at over 30 Crest Hotels throughout Britain.

WELCOME OVERNIGHTERS

The perfect, inexpensive bed and breakfast stopover. You can stay one, two or three nights any Friday, Saturday or Sunday.

CHILDREN GO FREE

Free accommodation for up to three children under 14 years old in most Crest Hotels on all Welcome Weekends and Overnighters. And special reductions in all other Crest Hotels. *No single room supplement when a single room is booked with one or more twin/double rooms.

Send for your free colour brochure now.

To: Crest Hotels, Postmark House, Cross Lane, London N8 7SD.
Please send me your free brochure with full details of Crest Welcome Breaks. D/5/80

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Address _____



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You'll be impressed

Non-coupon clippers ring London (01) 903 6422; Coventry (0203) 611813; Preston (0772) 52682; Glasgow (041) 812 0306.

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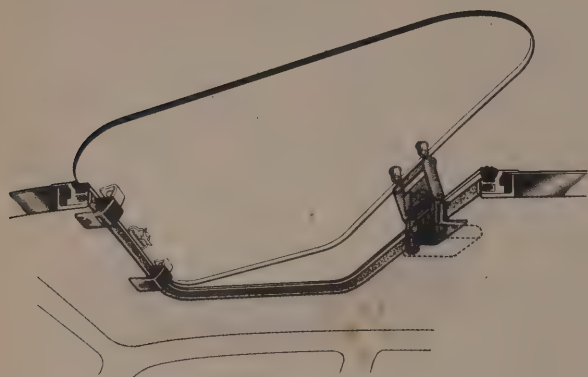
you back on the road inside a few hours.

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Panarama ... probably the most beautifully made sunroof in the world.

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Panarama — the all-British sunroof specially designed for all makes of European car.

Fitted in a day by trained specialists.

Panarama sunroofs make car interiors feel more spacious, light and airy.

They're tamper-proof and watertight.

For details of your local installation centre contact:



Panarama by Skyport Sunroofs U.K. Ltd.
Crown House, Unit 7, Ashville Trading Estate,
Nuffield Way, Abingdon, Oxfordshire.
Tel: Abingdon (0235) 27798

Britain's Radio Network At Your Fingertips



Until now the problem with car radios has been that they only let you hear half the story. Just as you reach the gripping part the signal fades and interference takes over, especially on FM broadcasts, where reception areas rarely span more than thirty miles, often far less.

Historically, the most popular answer has been either to switch off and amuse yourself by whistling, or twiddle incessantly with the tuning button in an effort to find the programme on MW. The first solution becomes predictable; the latter is positively dangerous when you're on the move.

Now consider what the Voxson Indianapolis has to offer. In appearance it may resemble some other top quality car radios, with a choice of MW and FM Stereo wavebands. But note the eight touch buttons. And think about the micro-electronic memory inside. Together they combine to give you a unique experience — the ability to 'store' 16 different radio frequencies and recall each one instantly at the touch of one of the buttons. That's more than any other car radio currently available can do.

So as you move around the country and FM reception starts to fade, touch a button or simply switch to MW and hear the remainder of the story. When it's finished, touch another button and you'll instantly hear another station altogether.

And just in case you can find nothing of interest, we've incorporated a sophisticated stereo cassette player so that with the Voxson Indianapolis, you should never have to whistle.

The Indianapolis is one of four stunning and sophisticated radios and combined radio/cassette players from Voxson, all featuring the unique extractable mounting system, but equally suitable for conventional mounting. And if you want a simple free-tuned combined radio/cassette player, choose the Voxson Nürburgring.

Write for a full colour brochure and for the Voxson Guide to Radio Reception, containing details of the radio station frequencies throughout the UK.

VOXSON

Voxson Audio Limited (Dept. D),
Nuffield Way, Abingdon, Oxfordshire OX14 1RY.
Telephone (0235) 26340

travel to and from work, or other work-related journeys, as the main reasons for driving a car.

Poor public transport is one of the causes — one worker in 10 declares that there is no adequate alternative means of travel available. Indeed, many comment that, without a car, they would be forced to change their job, move home, or give up work altogether.

1925 AA patrols include garden shears in toolkits... for cutting of nearly 6000 hedges on dangerous corners.

In rural areas, 62% commute by car, one in five because of unsatisfactory bus and train services.

The recent Budget changes will particularly hurt the car-commuter: the overall extra cost to the average motorist will be £50 a year. We can only hope that this will be reflected in increased investment in roads, but...

Dressed repairs



NO, THEY HAVEN'T just been beamed down from the *USS Enterprise*. The space-age gear is, in fact, a new line in foul-weather suits for... motorists.

The designer is the lady in the middle: Jacqueline Liddell, of Beeston, Notts. A second-year fashion student at Nottingham's Trent Polytechnic, her creation walked off with the first prize in a recent competition run by the E Midlands textile firm Derby Nyla.

The brief was to design some protection for stranded motorists using Dartex, a polyurethane-coated nylon that is water-, oil-, grease- and acid-resistant.

TRIUMPH is recalling 18,400 Liverpool-assembled Triumph TR7s for minor modifications aimed at preventing water ingress in the headlamp mechanism.

Meanwhile, BL car owners now automatically belong to an exclusive 'recall club'. If they are driving models up to five years old, they can find out whether their vehicle should

ever have been recalled for essential checks and, indeed, whether the recall work was carried out.

No other manufacturer in Europe has such an advanced computer record system. All owners have to do is phone Oxford (0865) 774663, quoting their car's registration or chassis number. It's as simple and as effective as that.

Seal of Approval

THE AA's Seal of Approval has been awarded to the Trackrite wheel-alignment gauge. Approval has lapsed on Motoradio's 790X car radio and the Stylex car-seat headrest.

SAAB IS joining the steady stream of manufacturers that believes in putting the boot in, and this saloon version of the five-door Saab 900 Turbo will be available in the UK before the end of the year.

The new car is the same size as the hatchback models, the clever bit being that Saab has retained the folding back seat to make a luggage platform 68.9in long. The engine will feature the recently announced Automatic Performance Control system — a microprocessor device that's designed to save precious fuel for the 1980s.



BASED ON the Prelude, the Honda Quintet was launched in Japan last February. It's claimed to be better than the Prelude in its aerodynamics, passenger comfort, ventilation and noise levels. While Honda

promises that the 1600cc Quintet will be sold in the UK, no launch date has been fixed.

This, by the way, is *not* the Honda design to be built by BL Cars. Keep looking for a three-door hatchback with no grille.



IS THIS the Volvo of the 1980s? It could be, if a long series of consumer tests confirm the company's beliefs that its customers still want big, traditional, up-market family cars.

Innovations being tested on the new car include a retracting spoiler to reduce air drag at speed, a new automatic transmission with built-in overdrive, a mini-TV display to replace

gauges for water and oil levels — and even a built-in calculator with four-stage memory for programming driving-seat adjustments.

Volvo engineers calculated the ideal angle between the car's body and the ground for the least air resistance and, to keep it that way, self-levelling suspension is used. Worried about its weight, this Volvo has shed pounds by using a bonnet, front wings and tailgate of aluminium, while a lighter gauge of glass is used for the tailgate's window.

Seatbelts come into operation automatically when the

driver starts the car, and retract when the door is opened, while the floor and seat cushions are shaped to prevent occupants from 'submarining' out from under the seatbelt in a frontal collision.

Two engines are being used

1928 AA produces vehicle road-tests, with extended trials of numerous new models. Technical department also kept busy testing new components and devices... and is today still looking for a fuel-saving gadget that really works.

Two **NEW** Paperback Atlases from Geographia



Europe Road Atlas

- * Scale: 32 miles to 1 inch
- * Motorways
- * Main Roads
- * Road Distances
- * Index to towns, villages etc.

London Visitors Atlas

- * Scale: 6 inches to 1 mile
- * Descriptive Gazetteer
- * Cinemas, Theatres, Places of Interest
- * Plans and Illustrations

Only **£1.50** each and available from all good bookshops

Nostalgia in steam. A solid brass working model of the Birmingham Dribbler

A limited number of this covetable collector's item is being made by methods which have revived the beautiful individual workmanship of the late 19th Century model makers. The Birmingham Dribbler is steam tested and ready to run. Every authentic component is incorporated even down to the whistle and safety valve! It is designed to operate at a pressure of 0.69 bar on one filling of 180cc water. The fuel is methylated spirit which heats the boiler externally. Frame and wheels are solid British Admiralty brass, formed by the Victorian "fine casting" technique. Main components are lovingly hand-polished to a superb finish, typical of period models they can be taken apart for renovation, repolishing etc. This will appeal to proud owners wishing to enjoy The Birmingham Dribbler to the full by having it as a display piece when not actually puffing out steam.

An heirloom of the future, offered at the favourable price of **£69**, including packing, postage and insurance.

Early ordering is advisable to avoid disappointment.

ORDER FORM Post to F.D.L., P.O. Box 67, Kidacre, Leeds LS1 1LS.
Please send me _____ working model(s) of The Birmingham Dribbler.
I enclose cheque for £ _____ or debit my Access or
Barclaycard no. _____

Signature _____

Mr/Mrs/Miss _____
(Please use Block Letters)
Address _____



Length 19cms
Height 14cms

Delivery normally within 7 days
Money Back Guarantee

1930 Car insurance becomes compulsory. AA offers members' policy through Motor Union. In 1980, AA Insurance Services provide cover for more than 300,000 members and non-members.

in the car, both turbocharged: one a standard petrol engine, and the other a 2.4litre diesel.

Rifle Range Rover

AIMED AT the well-heeled huntin', shootin' and fishin' fraternity, the Regency Excelsior is the ultimate in off-road luxury.

The London-based firm of Rapport Automotive is not just producing an extra-long Range Rover. Lovingly installed in the additional 35in of bodywork, apart from the extra doors, are electric windows, central door

locking, leather or Draylon trim, burred walnut facia and door cappings, two air-conditioning systems, a sunroof over the rear compartment, a stereo system, cocktail cabinet and colour TV. And, if the standard engine isn't man enough, there's a turbocharged version or a meaty 4.4litre alloy V8 Leyland engine.

To cap it all, there are special hunting seats that are raised hydraulically through the sunroof. Just the job for the occasional tiger shoot, what?

Price depends on just how many goodies you want, ranging from a modest £22,688 to double that and more.

Oil changes

BY THE END of the 1980s, engine oils will be radically different from those in use today. The prediction comes from George

Shorten, head of research and development at Century Oils — Britain's largest independent producer — whose extensive range of lubricants has helped to keep Britain's wheels turning for more than 50 years.

Says Shorten: 'With the Americans tightening up their specifications because of the energy crisis, there will be a big switch to synthetic oil to reduce demand on crude. In the meantime, more and more lubricants will offer twice the mileage life between oil changes.'

But according to Filtrate Ltd — another independent oil company — it could take a while before these are recommended by all car manufacturers.

Adds a spokesman for Shell: 'The emphasis will be on engine and transmission oils that will improve mpg by cutting friction losses. We believe that, by 1989, lubricants will be capable of making a 9% petrol saving. And,

1932 Great outdoors catching on, and AA reports 'great demand' for its booklet on camping and caravanning. Today, campers are looked after by DRIVE's sister-magazine TRAIL.

1933 AA joins with other organisations in scheme for more-efficient training of garage mechanics.

with vehicle manufacturers doing their bit, cars could well be producing double the mpg of 1975 models.'

Roads information

Numbers in parentheses refer to maps in the 1978-1979 AA Members' Handbook. (Please note: 1980-81 edition now available for collection from AA offices.)

GT BRITAIN

Motorways open

M876 Larbert M9 (Junction 7), 4.5 miles (44); M9 Junctions 7-9, 6.5 miles (52); M11 Junctions 9-14, 15 miles (19).

Major roads open

Downham Market bypass A10, 2.7 miles (28); Ludlow bypass A49, 4.5 miles (16); Sandwich bypass Stage 1 (A258-A257), 1.7 miles (11); Whitby bridge A171, 0.5 miles (41)

OVERSEAS

Portugal Auto Estrada do Norte E3, Lisbon-Santarém, extended 14km from Carregado to Aveiras de Cima; new toll charges from Lisbon to Aveiras de Cima: cars E47.50; cars with caravans E52.50.

Sweden 5.5km section of Motorväg E4, Gävle bypass, links E4 with road No 80; Kiruna-Narvik road No 98 now open to traffic as far as Torne-träsk (50km); road No E4, 17km Värnamo bypass, now open.



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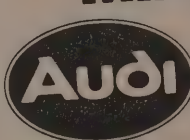
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MY KIND OF PLACE

Days of wine

THE MAN WHO set the winebar ball rolling was, appropriately, Derek Balls, chairman of the long-established Balls Brothers, the London wine merchants.

His restaurant-cum-pub brainchild was born in 1960, when his first winebar was opened in the shadow of St Paul's, at Carey Lane. And, judging by the way that similar places have mushroomed across the nation — Balls Bros alone runs 12, all in the capital — Derek Balls clearly saw, and corked, a hole in the market.

Today, winebars are enjoying another burst of popularity — not so much for their range of good-value wines as for the chance to dine for less than £5 a head. Other attractions are their complete informality, novel décor, and their ability to cater both for diners wanting to make an evening of it, and visitors simply wanting a snack before going on to the cinema. And, with even company purse-strings being drawn tighter, winebars are also being used increasingly for business lunches.

Says Ian Tyers, manager of the AA's hotels department: 'Wine bars represent fine value for money'.

As the proof is undeniably in the eating, DRIVE asked some of the AA's restaurant inspectors for their verdicts on three of the many winebars they have just inspected for the new AA guide 999 *Places to Eat Out for Around £5 (£1.95)*.

Grapes Wine Bar, Angel Arcade, Camden Passage, Islington, London N1: a sophisticated basement haunt with Saturday-night entertainment — live folk music or a Noel Coward evening. Original dishes that impress are stuffed aubergines (85p), and chili con carne garnished with fresh apple (about £2). Home-made desserts include fresh banana cake, banana flummery, and whim whams. A large glass of excellent French house wine costs about 60p.

Ye Olde Wine Shoppe, Wyndham Arcade, St Mary St, Cardiff: well worth a visit for its friendly bars and bright little bistro with good choice of cold-table platters (about £1.80). Chef's specials (from £2.50) include pork Americana (cooked in wine with peaches and brandy flambé), Malayan chicken (a hot, spicy curry) or shrimps à la Creole (cooked in wine, tomatoes, paprika and garlic). Gateaux and cheesecakes are about 40p a portion — the cost of a large glass of house wine.

Corks Wine Bar, Whitefriars St, Coventry: dark green walls, a rafted ceiling and tulip-shaped wall lamps create a yesteryear atmosphere. The list of cold and hot dishes (50p-£2.50) changes daily: soup (40p), pizzas (80p), meals of the day such as spaghetti or boeuf bourguignonne (£1), meat salads (£1.50), and steak (£2.50).

DRIVE May-June 1980



93 million miles.

The TR7 is now available with a little extra headroom.

The TR7 is now open.

In fact it's the first launch of a major new British open-top two-seater in years. So it will no doubt come in for a fair amount of scrutiny from the sports car fraternity.

And since the fraternity is known for a degree of traditionalism, we fully anticipate a few raised eyebrows among the older members.

True, the performance is well up to the TR standard. Indeed, with 5 gears, 2 litres of power and a top speed of 114 mph, it's not just the lack of a roof that makes your hair stand on end.

But where, we hear them ask, are the other distinguishing marks of the great British open two-seater?

Where, for instance, are the noise and

vibration so loved by the purists? Why, in this car, when you want to have a word with your passenger, you scarcely need to raise your voice, let alone bellow.

And what's happened to that time-honoured sports car austerity?

With deep, comfortable seats, thick carpets, speakers built into the doors and all that interior space, we can already hear the purists tut-tutting.

Gone, too, are the hours that you used to spend fighting to put the hood up or down. In the TR7 Drophead one person can do the job in less than 60 seconds.

Even so, we reckon the car's performance is going to win over the traditionalists in the end.

For once you're on the road with the

tachometer needle edging up and the wind in your hair, you know you're driving a thoroughbred TR.

Its wind-cheating shape and taut suspension make it stick to the road like superglue, even on the tightest of bends.

The new TR7 Drophead is now appearing at your local showroom in a range of shockingly untraditional colours and metallic finishes.

If you're still young enough to appreciate the sky for a roof and the thrill of the open road, we strongly suggest a test drive. If not, why are you still reading this? Better go for a test drive just in case.

The new TR7 Drophead.

Jaguar Rover Triumph



ALLOY WHEELS AND METALLIC FINISH SHOWN ARE OPTIONAL EXTRAS

Why every wise investor should have a stake in rare classic stamps.

In the last ten years stamps as an investment have outperformed shares, inflation and even house prices. This is proved by an independent survey by Maxwell Stamp Associates which shows that 12 sample portfolios of stamps rose in value during the 10 years by an average of 638%.

Although past performance is no guarantee of what may happen in the future it is worth noting that the sharpest rises are in the most recent years.

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1979 £350 Winter 1979 £900 Cat.



Above right - 1867-83 - £5 Orange SG137 Mint pair
1979 £9,000 1980 £15,000 Cat.

Left - 1883 10/- Blue SG183 Mint
1979 £650 Winter 1979 £1,700 Cat.

Below - 1902 £1 Edward VII SG266 Mint
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DRIVE

The 10-year record to March 1979 of the growth in value of stamps compared with houses, shares and Retail Price Index.

+638%

Average of 12 portfolios of stamps researched by Maxwell Stamp Associates

+11.7%
F.T. Ordinary Index

+209%
(Retail Price Index)

+311%
(Nationwide Building Society Index)

Shares

Inflation

Houses


Stamps

L & A Philatelics Ltd.

Stamp Brokers & Dealers Valuations for Probate



The man who went to breakdowns couldn't afford to break down.
So whose tyres did he use?

 **DUNLOP TYRES**
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Today, the AA and Dunlop tyres are still making sure you get home safely.



How you pay

INDEX OF MOTORING COSTS

JANUARY-DECEMBER 1979

HERE'S THE ONLY true guide to the average motorist's expenditure on running a car. In this unique DRIVE service, 1000 owners picked at random each month are asked to declare the number of miles they have driven, the amount of petrol they've bought, and all other related outgoings.

The results of these interviews are then added to the data from similar surveys in the previous 11 months. Thus, in addition to analysing the combined experiences of 12,000 motorists each year, DRIVE's Index of Motoring Costs also succeeds in ironing-out seasonal fluctuations.

Three main areas of expenditure are highlighted — fuel, servicing and repairs (including oil for topping-up) and insurance. Road tax, motoring-organisation subscriptions, parking fees, accessories and miscellaneous items are shown as 'All other costs'. Depreciation, however, is not taken into account.

AVERAGE MILEAGE AND EXPENDITURE, excluding depreciation

MONTH-BY-MONTH ANALYSIS (all cars)

	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per Mile (pence)	Petrol Cost per Mile (pence)
December 1979	34.06	10.88	5.11	7.60	57.64	676	8.53	5.04
November 1979	33.07	13.79	5.00	8.47	60.33	685	8.80	4.83
October 1979	34.19	14.25	5.01	7.39	60.85	687	8.86	4.98
September 1979	33.76	11.38	4.91	7.96	58.02	764	7.59	4.42
August 1979	35.64	11.31	4.92	8.62	60.49	839	7.21	4.25
July 1979	34.28	17.93	5.06	8.03	65.30	720	9.07	4.76
June 1979	31.02	15.70	4.96	9.60	61.28	746	8.21	4.16
May 1979	27.05	17.93	4.86	8.91	58.75	733	8.02	3.75
April 1979	25.80	20.96	4.80	9.08	60.63	771	7.86	3.35
March 1979	24.53	21.11	4.79	9.54	59.98	686	8.75	3.58
February 1979	22.85	10.83	4.72	8.77	47.17	644	7.33	3.55
January 1979	19.54	12.89	4.61	9.15	46.18	579	7.98	3.37

PRESENT AND PAST ANNUAL EXPENDITURE (all cars)

Jan 1979—Dec 1979	355.79	178.96	58.75	103.12	696.62	8530	8.17	4.17
Jan 1978—Dec 1978	283.05	170.22	52.51	100.14	605.93	9122	6.64	3.10
Jan 1977—Dec 1977	296.57	147.53	43.38	95.92	583.32	8973	6.50	3.31
Jan 1976—Dec 1976	285.90	119.74	40.77	74.86	521.27	9208	5.66	3.10

'All other costs' includes expenditure on items such as road tax, parking, AA subscription, accessories etc

If you're an 'average' motorist — that is, if you run a middle-of-the-range family saloon and drive around 8500 miles a year — you spent nearly £700 last year to keep your car on the road. Just over half of this was swallowed up by petrol (£355.79), and a quarter by servicing and repairs (£178.96).

Altogether, your motoring

cost £90 more than in 1978, the largest single jump being the extra £70 you paid for your petrol. But these differences don't tell the whole story, because you also drove almost 600 miles less. In other words, you spent less time at the wheel, but 1.5p per mile more compared to 1978 when you were there.

In fact, the 8530-mile average

in 1979 is the lowest 12-monthly mileage recorded since April 1976, when fuel costs per mile had soared by 30%. At the beginning of 1979, you spent 3.37p per mile on petrol but, by December, this had risen to 5.04p. The average over the year worked out to 4.17p — 1.07p more than the average over the previous 12 months.

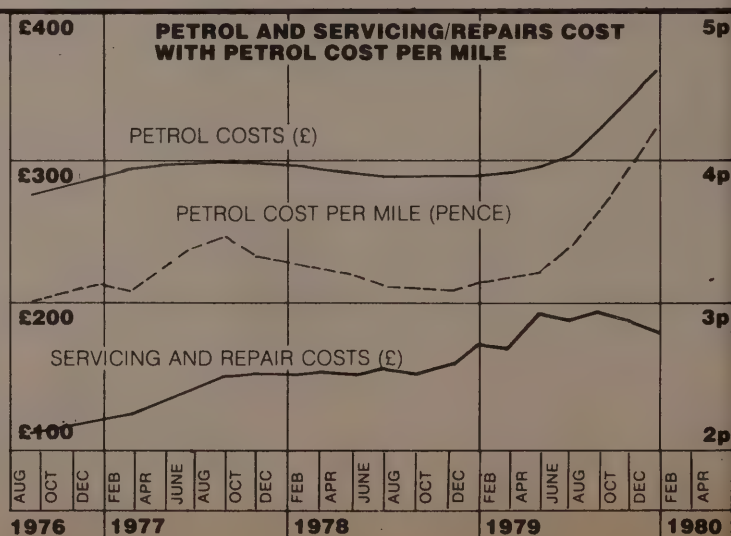
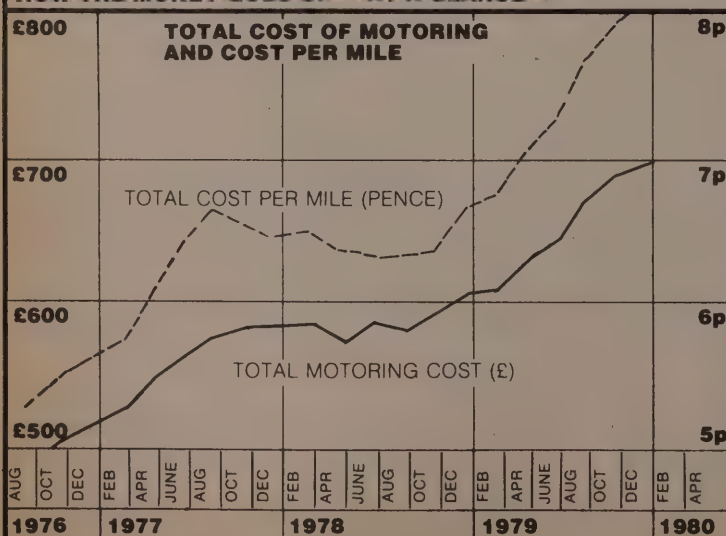
YEAR OF REGISTRATION MONTHLY EXPENDITURE (all cars)

	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per Mile (pence)	Petrol Cost per Mile (pence)
1979	39.41	2.56	5.56	11.33	58.86	1021	5.76	3.86
1978	39.94	7.07	5.52	9.61	62.14	1054	5.89	3.79
1977	33.88	8.58	5.53	9.90	57.89	860	6.73	3.94
1976	32.75	13.42	5.64	9.48	61.30	811	7.56	4.04
1974/1975	30.47	18.61	5.36	8.48	62.92	694	9.06	4.39
1972/1973	28.17	21.68	4.99	7.50	62.34	648	9.62	4.35
1970/1971	25.80	15.84	4.38	8.48	54.50	571	9.55	4.52
Pre-1970	21.66	16.21	3.54	7.48	48.89	520	9.40	4.16

Owners of new or almost-new cars drove twice the mileage in the last 12 months of those who ran a vehicle that was first registered before 1970.

Because their models are likely to be under warranty, and not suffering from undue wear and tear, new-car owners have almost certainly not yet encountered a major repair bill: that's due in the fifth year...

HOW THE MONEY GOES UP — AT-A-GLANCE



as you don't go

You can afford to smile a little if you're running a car with an engine-capacity under 900cc. Although you're likely to be driving 400 fewer miles than the owner of, for example, an 1800cc model, your fuel costs in terms of pence per mile are more than one-third less — 3.39p against 4.58p for 1800cc-owners.

ENGINE SIZE (post-1969 cars only) MONTHLY EXPENDITURE

— 900cc
901—1100cc
1101—1300cc
1301—1500cc
1501—1700cc
1701cc+

Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per Mile (pence)	Petrol Cost per Mile (pence)
18.32	9.86	4.53	5.89	38.61	540	7.15	3.39
22.40	12.58	4.59	8.18	47.74	605	7.89	3.70
27.99	12.93	4.84	8.28	54.05	706	7.65	3.96
29.37	13.39	4.98	8.90	56.63	686	8.25	4.28
37.73	12.51	5.31	9.58	65.12	861	7.57	4.38
43.41	17.08	6.54	10.28	77.31	948	8.16	4.58

NATIONALITY AND MAKE (post-1969 cars) MONTHLY EXPENDITURE

	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per Mile (pence)	Petrol Cost per Mile (pence)
BRITISH	31.57	15.96	5.01	8.86	61.38	755	8.13	4.18
Chrysler/Talbot	29.83	15.25	4.66	7.83	57.57	683	8.43	4.37
Ford	35.26	15.75	5.17	9.98	66.17	847	7.81	4.16
BL Cars	29.36	16.25	5.02	8.15	58.78	690	8.52	4.25
Vauxhall	31.30	16.80	4.81	9.30	62.21	800	7.77	3.91
FOREIGN	30.70	10.40	5.69	8.29	55.08	743	7.42	4.13
French	30.37	11.79	5.28	8.80	56.23	720	7.81	4.22
Italian	27.90	9.34	5.66	7.03	49.92	690	7.23	4.04
Japanese	29.09	6.75	6.05	7.21	49.10	753	6.53	3.87
W German	33.38	8.02	5.77	8.61	55.79	814	6.86	4.10
Fiat	25.54	8.40	5.30	7.16	46.39	665	6.98	3.84
Renault	30.27	8.91	5.29	7.31	51.78	693	7.48	4.37
Simca	25.39	11.71	4.56	7.02	48.68	555	8.77	4.57
VW	29.24	4.84	5.01	8.32	47.40	711	6.67	4.12
Volvo	47.67	32.06	7.56	10.42	97.71	870	11.23	5.48

If your choice is a British car, the odds are that it's slightly older and larger than the foreign models that some of your friends and neighbours are driving. As a result, you're probably paying more on servicing and repairs. But at least your petrol outgoings are similar — 4.18p per mile against 4.13p.

1934 Official driving tests introduced, AA comments: 'It would be premature to express any definite views as to their practical value in the reduction of accidents.'

You're sitting pretty if you run a Fiat 128 or 124. With total running costs averaging out at 5.57p per mile, you're enjoying cheaper motoring than anyone else in the table.

You can also consider yourself well off if you're a Datsun Cherry owner: your outgoings per mile are only fractionally higher at 5.58p. And you're a real miser at the petrol pumps — with a fuel budget of only 3.11p per mile.

You're not doing so badly, either, if you have a Ford Fiesta: your motoring works out to 5.75p per mile. And you're not far behind the man in the Fiat 128 or 124 when it comes to what you spend on petrol — just .08p more per mile at 3.34p.

However, it's the Mini 1000 brigade that's chalking up the smallest average monthly bill of the lot — but then this breed of motorist isn't using his car as often as the other four.

1936 AA criticises intensive and widespread police campaign against motorists for offences having 'little or no relation to road safety'. Many thousands of law-abiding citizens prosecuted when a warning would have sufficed.

MODEL-BY-MODEL ANALYSIS (post-1969 cars) MONTHLY EXPENDITURE

	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per Mile (pence)	Petrol Cost per Mile (pence)
Austin-Morris Mini 850	17.23	14.31	4.39	6.74	42.66	449	9.50	3.84
Mini 1000	18.83	5.94	4.48	7.68	36.94	540	6.84	3.49
1100/1300	20.76	13.88	4.40	6.70	45.73	543	8.43	3.82
Allegro	28.99	11.73	4.83	6.59	52.15	747	6.98	3.88
Maxi	32.64	23.32	4.96	8.54	69.46	774	8.97	4.21
Marina 1300 Mk 1	25.37	9.14	4.43	8.50	47.45	603	7.87	4.21
Marina 1300 Mk 2	30.89	4.13	4.45	8.85	48.33	772	6.26	4.00
Marina 1800	33.86	36.32	5.20	9.37	84.75	795	10.66	4.26
Princess	47.87	14.71	5.74	8.13	76.44	1024	7.47	4.68
Chrysler/Talbot Avenger 1300	27.71	12.21	4.67	8.06	52.64	720	7.31	3.85
Hunter 1750	29.20	35.35	4.71	6.86	76.13	699	10.89	4.18
Datsun Cherry	21.21	4.71	5.17	7.04	38.13	683	5.58	3.11
Sunny 1200GLS	27.26	8.22	5.67	7.91	49.06	702	6.99	3.88
Fiat 128/124	23.28	4.39	5.25	6.81	39.74	713	5.57	3.26
500/127	19.89	6.78	4.55	6.24	37.47	559	6.70	3.56
Ford Escort 1100/Popular Mk 1	24.41	25.92	4.35	8.13	62.82	551	11.40	4.43
Escort 1100/Popular Mk 2	27.70	14.24	4.58	7.21	53.73	798	6.73	3.47
Escort 1300 Mk 1	26.55	25.32	4.60	7.85	64.31	544	11.82	4.88
Escort 1300 Mk 2	36.02	13.07	5.07	13.96	68.11	947	7.19	3.81
Fiesta	26.15	2.38	4.75	11.70	44.98	782	5.75	3.34
Cortina 1300 Mk 3	30.97	14.67	4.39	6.12	56.15	849	6.69	3.69
Cortina 1600	38.71	14.04	4.89	12.36	70.00	945	7.41	4.10
Cortina 2000	42.33	12.88	6.52	8.95	70.66	1128	6.26	3.75
Capri 1600 Mk 2	36.81	3.98	6.06	11.13	57.98	884	6.56	4.16
Granada/Consul	45.70	12.69	6.57	7.78	72.74	1071	6.79	4.27
Renault 4/5/6	24.28	13.93	4.83	6.71	49.75	679	7.33	3.58
12	29.97	2.71	5.16	6.27	44.11	635	6.94	4.72
15/16/17	36.94	8.08	5.61	7.44	58.07	731	7.94	5.05
Rover 2000/3500 (pre-1976)	50.11	16.72	6.57	7.12	80.53	865	9.31	5.79
Triumph Toledo/Dolomite 1300	24.62	14.70	4.75	6.24	50.30	637	7.89	3.86
1500/Dolomite 1500	31.10	17.86	4.87	13.98	67.81	622	10.89	5.00
2000/2.5PI	40.44	21.23	5.77	6.92	74.36	855	8.70	4.73
Vauxhall Viva 1256	24.70	15.39	4.52	7.31	51.92	682	7.62	3.62
Chevette 1256	30.33	7.74	4.65	13.55	56.28	819	6.87	3.70
Cavalier 1584	46.01	12.05	5.78	12.49	76.33	1290	5.92	3.57
Volkswagen Beetle	22.32	4.87	4.26	8.16	39.62	543	7.30	4.11
Golf/Polo	31.44	3.29	5.12	7.47	47.32	801	5.91	3.93

NB: Different usage patterns and sample sizes could account for some of the small variations, in particular areas, in expenditure on particular makes and models.

Eastern promise



TIME WAS when every Japanese car had poor ride characteristics, worse handling and styling as modish as a Ford Edsel's. But the world queued up to buy these reliable, oil-tight motors.

Now, the Japanese are about to guarantee their market domination with a new generation of cars far better suited to motoring in Europe. It has to happen because Japanese cars can no longer offer European buyers a major cash saving. Instead, they will have to sell on merit alone.

With this in mind, I visited Japan to discover what merits the Japanese car has on its home ground — and what its makers must do to adapt it to ours...

For the key to Japanese car design, look no further than the country's geography and laws. Even on its motorways, speeds are restricted to 50mph — which most drivers respect; off

them, on the narrow roads that twist from the coastal strip to the mountains, overtaking is hazardous at the best of times, so traffic proceeds with Oriental tranquility.

These are the conditions that encourage Japanese designers to produce motors with good low-speed torque and a comfortable low-speed ride. The trade-off is that speeds never rise sufficiently high to reveal the vagueness inherent in the widely-used recirculating-ball steering systems.

Even land prices have played their part in car design. Because of the astronomically high cost of building land on the islands, and the priority given to residential rather than commercial building, repair garages are few and far between. What better incentive could there be for developing reliable engines, and facias that bristle with component-failure and overdue-service warning lamps?

What *did* surprise me was that the Japanese buy their cars more for pleasure than for business, and that a good many of them have no ambition at all to own their own car. I met a well-paid chief engineer at one car factory who travelled everywhere by public transport — but then Japan's transport

systems are more efficient than anything we enjoy at home. It's a fact that the average Japanese worker lists a colour TV as his main purchase, and he will then agonise over whether to buy a car or an air-conditioning system for his home.

If he decides on a car, it will be Japanese. Only the really wealthy will consider going foreign, though European cars are certainly considered chic. Favourite makers are BMW, Mercedes-Benz, Porsche and, curiously, the diesel-powered Volkswagen Golf LD.

I believe that the Japanese car industry has three advantages that ours lacks. Its workers are proud of their country, loyal to their company and have a highly competitive approach to work. Even on the shopfloor, workers are keen to take examinations to obtain a better job. And to think that the industry started by following Britain's lead at the turn of the century — which is why Japan drives on the left.

They don't copy us any more. I felt that they were baffled by the British attitude to work; but the industry's superb labour relations are based on a loyalty to the company that is totally alien to us.

Overmanning, absenteeism and bitter industrial disputes

are still unheard of, though the unions have achieved better pay and conditions than are found in Britain.

A visit to the Toyo Kogyo company, Japan's fourth-largest motor manufacturer, proved instructive. Better-known in Britain as Mazda, the company has produced more than 1 million Wankel-engined cars, and more than 8 million conventionally powered cars. Yet Mazda exported its first vehicle — a three-wheeled truck to China — as recently as 1956.

By Japanese standards, the company isn't booming. The firm showed a profit in 1978 for the first time since the 1974 oil crisis, and is among the world's most vulnerable vehicle manufacturers. Like BL, it isn't big enough to compete unaided with the giants.

Ford's offer to buy a 20% equity share in Mazda could not have come at a better time. Ford can gain a number of fully developed lean-burn, low-emission engines ready to drop into its range of sub-compacts, and Mazda gets badly needed cash to re-tool for a new line of lightweight cars.

One thing is certain. Ford cash spent in Japan can't be spent in the UK. Ford, it seems, knows where to make its money work.

MARCUS JACOBSON

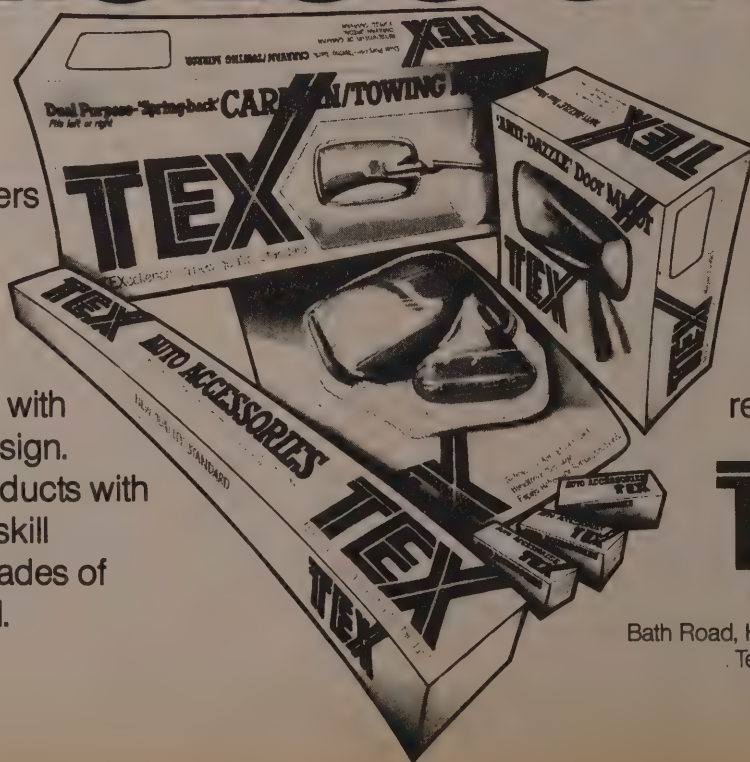
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Star of all the rush hours

The eldest child of the fuel-crisis generation is 21 this year. Just two years after the Suez crisis gave the motoring West its first, sharp lesson in fuel frugality, the 848cc Morris Mini Minor was born. And it's still available today as the Mini City.

While the Mini found 4½ million fans during the swinging Sixties and sobering Seventies, a new generation of so-called super-minis was bred to outshine the Daddy of them all, with tailgates, more space . . . and more profits for their makers. Ignoring these upstarts, the Mini soldiered on as a van, estate, pick-up, Riley Elf, Wolseley Hornet, Moke, Cooper and Clubman. But nothing could disguise the fact that it was an ageing, 10ft-long box on wheels.

Soon, there should be an all-new Mini Metro to take on the foreign

Austin Morris Mini 850 City

Price £3490 On the road £3795

hatchbacks at their own game; but the Mini proper will still be there, too. DRIVE went back to the cheapest of them all, the Mini City, to see if this 21-year-old can still hold the key to a budget motorist's heart.

How it goes

The Mini has been fitted with almost every conceivable variation of the venerable A-series engine in its time, but, for the City, it's back to the original 848cc power unit. Power output is a modest 33bhp, which doesn't sound like a formula for exciting performance — and the leisurely acceleration times recorded overpage prove that it isn't. That said, it's an eager little work-

horse, starting and pulling well right from the word go.

Around town, it feels nippy and responsive, and on the open road it bowls along at what seems like an impressive rate . . . until you realise that you are doing only 40mph! Overtaking at speed needs careful anticipation, a cool head, a swift downchange and a level road — the merest hint of a hill is enough to make the Mini City flag. For the record, it takes the City 3sec longer than the Mini 1000 to complete both 30-60mph through-the-gears and 30-50mph top-gear acceleration runs. Top speed levels out at 73mph and, provided the wind is in the right direction, the City is happy to maintain 70mph on a flat motor-

way. Whether you will feel the same way is a matter to which we'll come later.

Those with not-so-fond memories of the early Mini's gear change will find this latest short-lever version a big improvement. All right, it still can be difficult to select first, and reverse invariably engages with a grate that makes passers-by stare; but its movement in and out of the other ratios is now considerably more slick and precise. Pedal pads are on the small side, but their positioning is better planned than in some mini rivals, and there's plenty of room for an idle clutch foot.

While the clutch has a short travel, it does require 34lb pressure to depress it fully — a little too heavy for a round-town car. Still, it is man enough to restart on a 1-in-4 hill with two-up, and might well have managed a 1-in-3



CAR TEST

if the road had not been damp.

The Mini's nimble handling and surefooted roadholding are both fun and extremely safe. All that the enthusiastic driver must beware of is a blend of bends and bumps together which can set the little box bobbing all over the road. On the smooth, however, there's little to touch the Mini: just turn the steering wheel and round it goes, with little sign of bodyroll. The faster you drive into a bend, the greater the tendency of its snub nose to drift wide, but such understeer never gets out of hand, and backing off the accelerator is all that's required to restore a tighter cornering line. Grand Prix starts can set the front wheels scrambling for grip, especially in the wet, but this is less of a problem for the City than it is for its more-powerful brothers in the Mini range.

Unusually, the steering manages to be both high geared—just 2¾ turns between full locks—and light to handle, keeping the driver fully informed about what's happening between the tyres and road—a great combination for town and country roads.

We wish the steering wheel wasn't cantied at such an awkward angle, though, as the stretch to the top of the wheel dictates how far back most drivers have to sit. Tall or short drivers will appreciate the alternative seat-anchorage points—1½in apart—that compensate for the limited movement of the normal seat adjusters. You'll need a spanner to make the adjustment, but it's worth the effort. The driver's seat looks shapeless, and there's no reclining mechanism, but our testers found that their backs survived a gruelling 350-mile test day without complaint.

Instrumentation is minimal—just a large speedometer with a fuel gauge set into it. Maybe one shouldn't expect more of a low-cost runabout, but surely positioning it in front of the driver—rather than in the middle of the fascia, where it's masked by the driver's left hand—isn't too much to hope for... even after 21 years of asking.

Important minor controls are grouped on two easily reached column stalks: the righthand operates indicators, headlamp main beam/flash and horn, while two-speed wipers with useful flick-wipe and electric wash are controlled from the left. Rocker switches are grouped under the speedometer, a long stretch away and awkward to find in the dark, but we liked their built-in signal lamps.

How comfortable

Even after all these years, DRIVE can't help but marvel at the genius that created so much room inside

so small a car. Four slim adults can be accommodated with just about sufficient knee- and leg-room for the two in the back. Mind you, we wouldn't be too keen on sitting in the back on long journeys: there's no stretching space, seat support is thin, and you need to be agile to dodge the low roofline and slide past the tipped-up front seats. The seatbelts don't get in the way as much as they used to, and the door checks are better at resisting wind and incline.

The City's fashionable black-and-white houndstooth cloth seat facings are a big improvement on its predecessor's pvc upholstery in extremes of weather. Utilitarian rubber matting still covers the floor, however, and bleak, painted metal abounds. The leathercloth mat that once covered the boot floor has been rationalised away, and cargo has to balance precariously on the spare wheel and battery cover—not that you will get much in there. We wished for a roofrack.

In contrast, oddments space inside is surprisingly good, and the City shames a lot of larger cars. There's a full-length fascia tray, large pockets built into the rear side panels and, when things get really tight, even a large vacant area under the rear seat. We still lament the decision, taken some years ago, to replace the original Mini's sliding front windows with wind-ups. Not only did an extremely useful pair of large door panniers disappear but also the means of getting draught-free ventilation. Unlike other Minis,

there are no fresh-air outlets on the City's fascia.

The latter is a big problem, for the heater is an all-or-nothing design. Controlled by what appears to be a second pull-push choke knob, it blasts out hot air when pushed right home, and delivers none when pulled out a fraction. Our midwinter drivers had the dubious choice of getting hot and stuffy or lowering a window for an ice-cold blast of wind. Fortunately, good demister slots in the front and a standard heated rear screen see to it that there's no trouble looking out on muggy days, though keeping the side windows clear is a problem.

Appropriately, the City is the best Mini that we have met for dealing with random road-surface faults, especially at low commuting speeds. When its pace quickens, however, and the faults become more regular, so the ride deteriorates and things become very bouncy and choppy. The combination of its short wheelbase and small wheels make the City's ride on fast B-roads downright crude when compared to the current level of the art.

Not surprisingly, sitting so closely to the busy engine makes the Mini unavoidably noisy. Up to 60mph, it is not an irritating din, but, once this speed is reached, it booms through the bodywork, with wearing effect on the driver. Pushed hard through the gears, the bonnet emits a deep induction roar and, pushed too hard, the little engine protests with loud valve thrash to remind you that it's time to change up. While modern rivals such as the VW Polo show how smooth and willing a small engine can be, this power unit is, nevertheless, the smoothest in the current Mini family, and will accept top gear without complaint from 20mph.

Around town, the Mini's in its element: its compact dimensions, nimble handling and good glass area make it easy to slip in and out of tiny spaces while limo-drivers look on in envy. Only the interior mirror annoys here: it doesn't give a good view back, and spoils forward vision from some angles. The wipers leave nasty blind spots, too.

How strong

Premature rusting has long been a problem for Minis, and, judging by our test car, the problem is likely to continue. No attempt is made to apply underbody protection other than primer during production, so our advice to buyers is to buy a proprietary treatment before delivery. It's also worth inspecting the paintwork: our car had several paint runs and surface faults—some where the paint and primer had failed to adhere, leaving bare metal showing. Not a

AUSTIN MORRIS MINI 850 CITY

Parts/repairs (inc VAT)
clutch £33.65 (fitting 2.95hr)
exhaust £28.60 (0.65hr)
headlamp unit £7.20 (0.5hr)
front bumper £5.50 (0.25hr)
laminated windscreen £22.25 (0.85hr)

oil filter and points £3.57 (0.9hr)
major service 6,000 miles (3.22hr av)

Insurance group 1

Warranty 12 months/unlimited mileage, AA membership and Relay with optional (extra cost) second year's cover

Standing costs per year/12,000 miles
Loss of value £178
Capital interest £174
New-cost inflation £282
Total standing costs=£634 (5.2p per mile)

Running costs

Petrol (£1.27/gal) £362.86
Insurance (av) £92
Road tax, AA sub £72
Servicing/replacements £130.51
Total running costs=£657 (5.49p pm)
Total ownership £1291.37 (10.76p pm)

HOW IT COMPARES

Austin Morris Mini 850 City

Citroen Dyane

Fiat 126 De Ville

Ford Fiesta 1000

Reliant Super Robin



HOW GOOD

At-a-glance

DRIVE's verdict on the Austin Morris Mini 850 City, taking into consideration its rivals, its price and what kind of car it's *meant* to be

Out of 10

PERFORMANCE

●●●○○○○○○○

FUEL ECONOMY

●●●○○○○○○○

HANDLING/STEERING

●●●●●●●●○

COMFORT/REFINEMENT

●●○○○○○○○

INTERIOR/LUGGAGE SPACE

●●●●●●●○○

PASSENGER AIDS

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DRIVER AIDS

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ACCIDENT/INJURY SAFEGUARDS

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RUST RESISTANCE

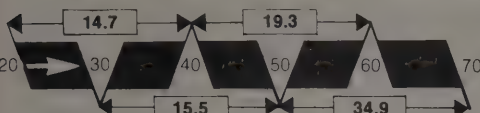
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RELIABILITY/EASE OF REPAIR

●●●●●●●○○

ACCELERATION Times in sec

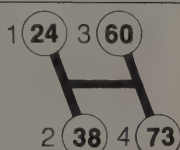
MPH	THROUGH GEARS	IN TOP GEAR
0-30	5.6	
30-40	4.0	7.5
30-50	9.5	15.5
30-60	18.0	26.8
30-70	41.8	50.4



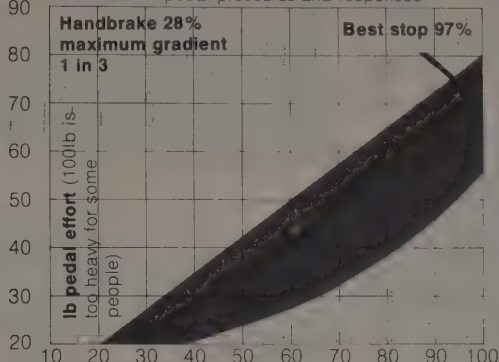
Top-gear speed-range times (sec)

TOP SPEEDS

max engine speed used 5800rpm;
max in top 5000rpm;
standing 1/4 mile 22.5sec



BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75 % stop (ideal car would show no variation)

53lb at start; **48lb** in constant use; **68lb** in severe use
Watersplash immediate recovery

FUEL 2-star/90 octane min

Consumption — normal range

short journeys in the suburbs	35mpg
hard driving, heavy traffic	36½mpg
motorway — 62mph cruising	37mpg
brisk driving — 50 mph cruising	42mpg
gentle driving, rural roads	49mpg
typical mpg overall	42mpg
realistic tank range	210 miles/5gal

Consumption at steady speeds

30mph	62½mpg
56mph	43½mpg
70mph	39½mpg
max mph	28mpg

SAFETY CHECKS

steering: energy absorbing? Yes	hazard warning: fitted? Yes
front seats: secure mounts? Yes	interior: well padded? No
head restraint? No	w/screen: laminated? No
front belts: effective? Yes	doors: crashproof? No
convenient? Yes	childproof? Yes
rear belts: fitted? No	petrol: spillproof? No
	brakes: failsafe? Yes
	load sensitive? No

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-60MPH THROUGH GEARS (SEC)	30-50MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
2619	848	42	73	18.0	15.5	97.70	10' 0¼"	39¼	34½	2¾/30
2549	602	47	73	20.2	20.5	95.100	12' 8½"	39	40	3.36½
2440	652	47	68	30.1	20.2	85.80	10' 3¼"	38½	33¾	3¾/28½
3056	957	41	83	13.2	14.7	97.50	11' 8½"	40	39¾	3½/31½
3155	848	45½	80	11.6	13.7	85.80	10' 11"	40	33¾	2¼/27¾





very impressive display after all these years.

The City has matt-black steel bumpers that should weather better than chrome, though, on a town runabout, we would prefer plastic ones sited farther ahead of the paintwork.

On wet days, the Mini gets covered with road dirt, especially around the back window, where no wash-wipe is provided. Thanks to its compact dimensions, washday is easy, but watch out for some nasty sharp edges. Inside, the new upholstery quickly shows all marks and isn't as easy to clean as the old pvc type. The rubber matting cannot be removed easily, so a vacuum cleaner is a must.

Mechanically, the Mini should prove cheap and reliable transport. True, it doesn't feature some of its rivals' more-modern equipment, but there are some nice old-fashioned touches that we appreciate, such as brake adjusters and grease nipples.

How safe

Sitting in a small box just 10ft long and looking up at passing lorry wheels, one can't help but think that, when it comes to the crunch, you're not going to be far away from the impact. Drivers' apprehension could be relieved by better interior padding — there's none under the roof lining — and painted metal abounds. The radio, when fitted, is slung under the fascia, posing a serious threat to passenger's knees. The door locks are the old-fashioned type that could be opened by a side-

swipe. A pair of good inertia-reel belts is included in the list price and anti-tip latches now restrain the front seats, but their releases, by the base of the seats, are awkward to reach and operate. The seat backs also lack protection from rear passengers' knees.

To compensate, roadholding and handling are utterly safe and predicatable. The City is designed to help the driver who finds himself in an awkward spot, and it's so forgiving to the novice. There's a facia-mounted switch to check the brake circuits, and a warning lamp to signal their failure — a good feature in this price of car. Apart from a rather wooden feel to the brake pedal, there's really little to complain of in everyday braking. There is a tendency to fade under real duress, but recovery is quick, and the handbrake holds the City either way on a 1-in-3 hill.

How much

There are a few cars that are cheaper to buy than the Mini City, but not many — the minutest price-tags belong to the two-cylinder offerings from Citroen — the 2CV6 and Dyane — and Fiat's 126 range. Closer in price to the City is the new Suzuki SC100 GX. Some Eastern-bloc cars are also cheaper, but one can't regard these as genuine economy cars. So, on price, things look good for the City.

Another less-tangible consideration is depreciation, and here the City scores really well. There's no doubt that good, used Minis are much in demand, and

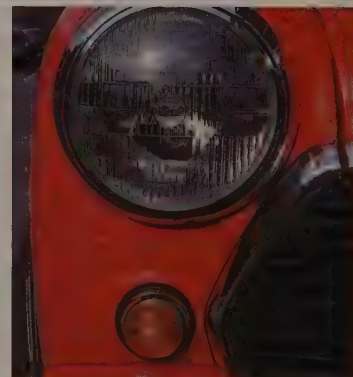
this is reflected in excellent resale values. Cautious secondhand buyers know that it's cheap to run, and Mini parts prices make some rivals — especially the Citroen 2CV — seem like limousines. Insurance costs don't come any lower, either.

Only when it comes to fuel consumption does the argument in favour of the 850cc City falter slightly. We reckon that the Mini 1000 has a small advantage here — besides going a lot faster — and the small Citroens and Fiats are distinctly better petrol-stretchers. Bigger cars, such as the Ford Fiesta and VW Polo, do almost as well on mpg as the City, and they are a lot more practical, versatile and refined.

Servicing comes round every six months or 6000 miles, whichever comes first. The Mini's dealer network is the largest in the country and, even if it were not, it has been around long enough to be familiar to every little garage round the corner. This could be useful: if you do-it-yourself, you are almost certain to finish up with sore knees or backache. The cramped engine bay means that most jobs take a bit longer than usual, but routine servicing is not beyond the competent home mechanic. The handbook is helpful, too, but no tools are supplied beyond minimal wheel-changing equipment.

Verdict

We enjoyed our Mini City. It was like meeting an old friend whom we hadn't seen for years. All the old bad points are still there, but



it's still such an engaging character that we could tolerate all of them for a while.

The question is, how does it measure up to your new motoring acquaintances of the 1980s? Some are more practical, more refined, more versatile, better built and go farther per gallon . . . but few are as cheap to buy and run over the first three years of ownership as the Mini.

Here's hoping that BL will continue to build it, keep the price down, and let the eagerly awaited Metro take on the superminis.

ENGINE

Type and size front-mounted, transverse 4-in-line, water-cooled; 62.9mm bore x 68.3mm stroke=848cc; 3 main bearings; with iron block/head

Compression ratio 8.3:1

Valve gear overhead — pushrods and rockers

Fuel system one SU HS4 variable-jet carburettor, fed by mechanical pump from 5½gal tank — no reserve

Max power (DIN-net) 33bhp at 5300rpm

Max torque (DIN-net) 39.8lb ft at 2500rpm

TRANSMISSION

Clutch 7.1in diaphragm-spring, single dry plate, hydraulically operated; load/travel: 34lb/3¼in

Gearbox 4-speed (all synchromesh) and reverse; ratios: first 3.53:1, second 2.22:1, third 1.43:1, top 1:1, reverse 3.54:1

Final drive 3.76:1 to front wheels

Mph per 1000rpm 14.8 in top gear

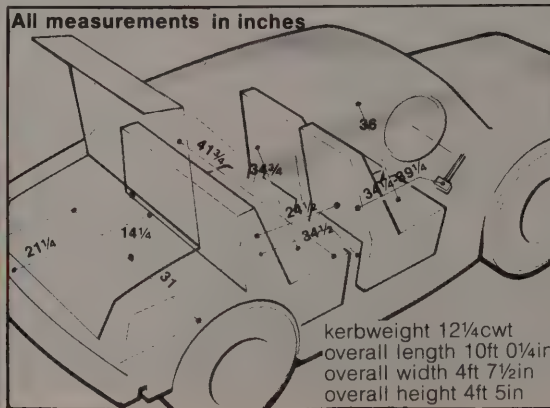
CHASSIS

Suspension — front: independent wishbones with rubber-cone springs; rear: independent trailing arms with rubber-cone springs; dampers — telescopic type all round

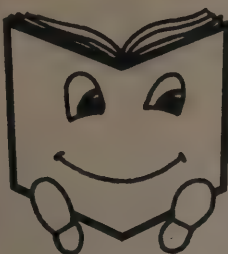
Steering rack and pinion, with 2¼ turns between full locks. Turning circles average 30ft between kerbs, with 40ft in response to one turn of the wheel

Wheels 3½B rims with 145SR10 radial-ply tyres (Michelin ZX on test car)

Brakes dual-line hydraulic-drums all round, no servo



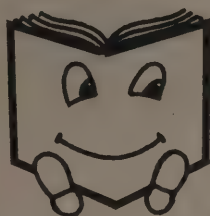
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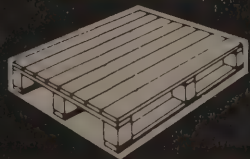


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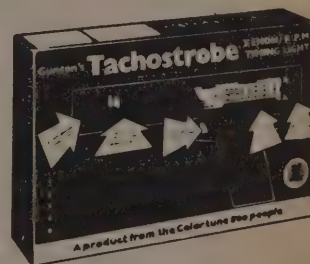


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HOME MECHANIC

Flash points

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Timing in fact ensures that your sparkplugs fire the petrol/air mixture at the optimum time, so the most appropriate method of timing is *dynamic* — with the engine running. This requires a special stroboscopic lamp, such as the one on offer below, but the result can be more accurate than the alternative method of *static* timing. The reason is simple: with the engine running, the backlash in the distributor's drive can be

taken up, and the stroboscope flash shows the engine's timing precisely as the spark occurs.

Before attempting either method, make sure that the contact-breaker points' gap is set correctly — a simple job that you'll find detailed in the AA's *Car Care* book. Then, for dynamic timing...

1 Help the timing marks to show up by putting a chalk mark or dab of white paint on both the static and moving marks.

2 Connect up the stroboscope according to the maker's instructions. If you don't have Gunson's Tachostrobe, you'll also need to connect a tachometer (rev counter), or ask a helper to watch the car's built-in tachometer.

3 Disconnect the vacuum-advance pipe — unless advised against this by the manufacturer (refer to your manual).

4 Start the engine and aim the stroboscope at the timing marks while operating the throttle cable to attain the correct engine speed stated in the manual.

5 The timing marks should appear to align in the flashing light

1937 AA prepares for record summer, signs-on another 100 patrols at cost of £20,000 — that's right, £4 a week. 30,000 members take their cars abroad.

at the recommended engine speed. If they don't, stop the engine, loosen the distributor's clamp, and restart the engine. Move the distributor's body until the marks align, stop the engine and lock the distributor body with the clamp. Recheck the setting.

For static ignition timing, you check the moment that the spark-plug fires in the number-1 cylinder by using a 12v lamp.

1 First identify the number-1 cylinder. Usually it is at the generator end of the block. On less-common engines, such as V4, V6 and 'flat' cylinder layouts, number-1 cylinder is usually identified in the car's handbook.

2 Next, identify the timing marks. It is not always obvious what they signify. If in doubt, check with a main dealer as to the car's correct ignition timing and the meaning of the marks.

3 To check the static timing, turn the engine crankshaft until the marks align at top dead centre.

4 Lift the distributor's cap and check that the rotor arm is pointing to the electrode in the cap which is connected to the HT cable feeding the number-1 sparkplug. If it is pointing in the opposite direction, rotate the crankshaft another full turn.

5 Connect one wire from the 12v test lamp to a good earth point (a bolt on the engine will do), and

1938 Major extension of AA's Leicester Square offices, London, amid storm of protest — the work necessitated demolition of the home and studio of Sir Joshua Reynolds. Evelyn Waugh complained bitterly, but AA chief, Sir Stenson Cooke, told 'Miss E Waugh' that preservation was impractical...

connect the other wire to the distributor's contact-breaker spring.

6 Check the setting by rotating the engine crankshaft anti-clockwise about 30°, then inching it clockwise with the ignition on and the test lamp connected.

7 If the lamp lights before or after the marks are aligned, switch off the ignition, turn the engine anti-clockwise 30°, then slowly clockwise until the marks align.

8 Loosen the distributor clamp.

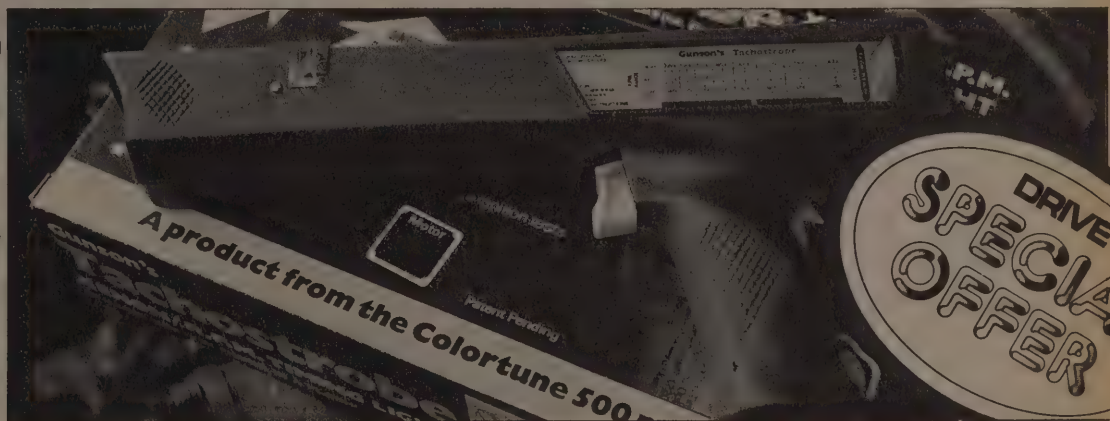
9 With the ignition on, turn the distributor body in the same direction of rotation as the rotor arm (usually anti-clockwise) until the light goes out, then turn it in the opposite direction slowly.

The instant that the lamp lights, stop turning. Tighten the distributor clamp.

10 Check the setting marks as described in step 6.

Based on the new AA *Marks and Spencer* book 'Car Care' — 224 illustrated colour pages price £3.50.

Timing is money



ACCORDING TO CHECKS by a major sparkplug manufacturer, more than half the cars on Gt Britain's roads could be running with incorrect timing. There's no guarantee even that vehicles which are regularly garage-serviced are in tip-top order, either: when DRIVE picked, at random, 500 AA reports of tests on cars less than a year old, two in five were found to have timing so wayward that they were wasting precious fuel.

But economy isn't the only consideration. Badly adjusted timing can cause 'pinking', loss of power and serious damage to valves and pistons. All the more reason why motorists need to be sure that engine timing is A1.

The trouble is that most owners can't tell whether there's anything amiss, let alone know how to put it right. But we can help you, with the aid of Gunson's Tachostrobe — a sophisticated electronic device that enables you to time your engine easily and precisely to the manufacturer's specification.

Carrying the prized AA Seal of Approval, this robust tool comprises an accurate rev counter, and a Xenon tube that emits a brilliant white stroboscopic light. Being mains-powered, the Tachostrobe is suitable for all types of ignition systems. Full instructions for use are provided.

The usual price for a Tachostrobe is £18.29. But through this

DRIVE Special Offer, it can be yours for only £13.35, including postage and packing. Simply complete the coupon below and, while you're waiting for your Tachostrobe, read the rest of this page to find out how useful this tool will be.

DRIVE Tachostrobe Offer

NB Don't want to cut the coupon and spoil DRIVE? If you don't, please print all the same details in the same order on a plain sheet of paper or postcard. Offer available only to readers in Gt Britain and N Ireland, closes 29 August 1980

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DM

Vroom at the top



MEAN AND MOODY, but often magical — that's how we'd describe the trio of exotic cars we drove when we bowed to popular demand — mostly from our youngest tester, who's *very* popular! — and set out to quicken our pulse rates with a Maserati Merak SS, Porsche 924 Turbo and Lotus Esprit 701.

But before taking you down the road and round the test track, let's fill in the blanks for taproom car buffs . . .

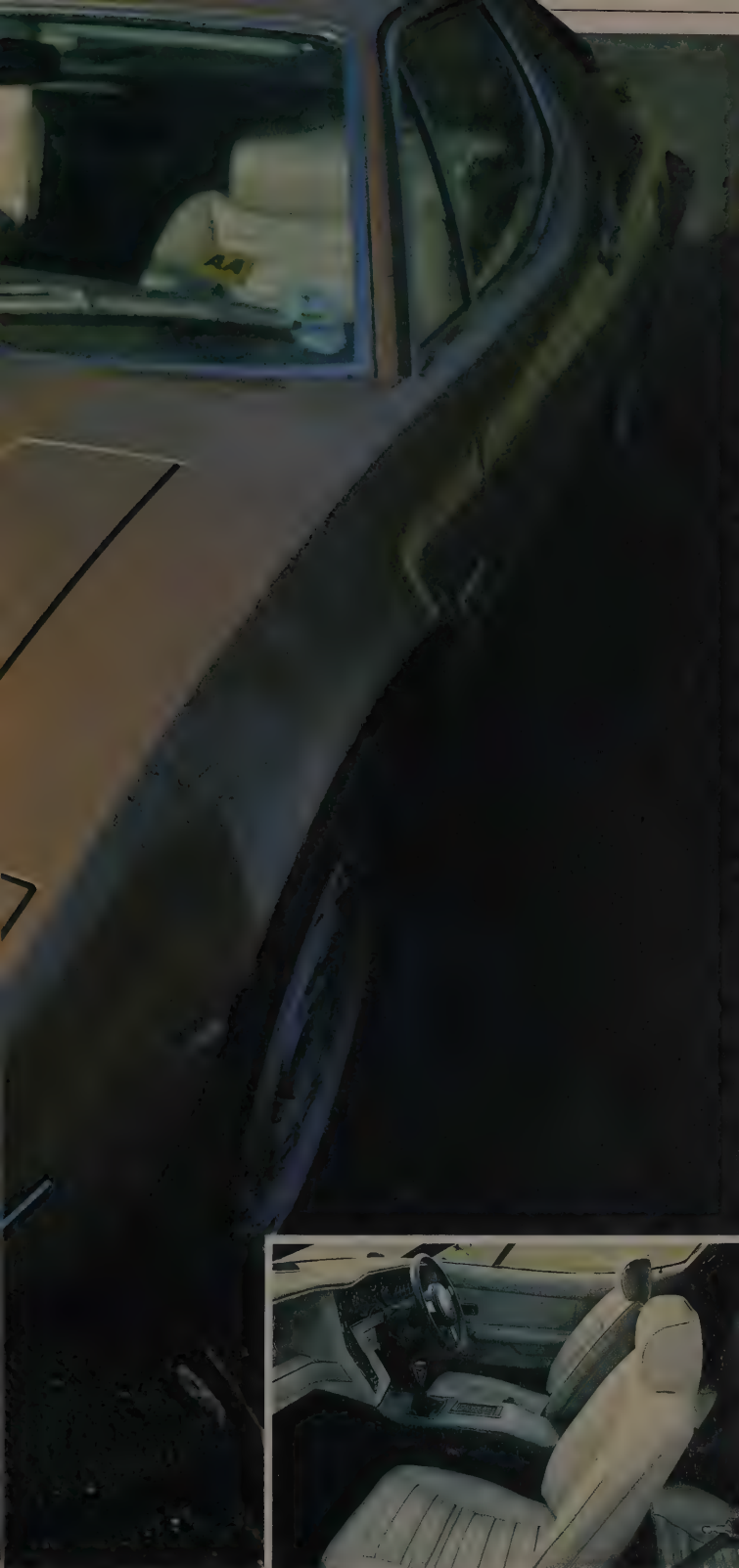
The Merak has a 3litre V6

engine installed behind the driver's left ear, just itching to deliver 220bhp and 154mph.

A KKK turbocharger has transformed the very-civilised Porsche 924 into something that feels as if it might turn green and burst its shirt at a drop of the throttle. No mid-engine, but, by moving the gearbox to the back, Porsche genius has achieved near-perfect weight distribution to tame the 170bhp available. Speed tops 140mph.

The Lotus isn't embarrassed at





all in this sort of company: it may be overpriced, but it certainly isn't underpowered. The claim of 160bhp might sound extravagant, but its wind-cheating shape and the race-bred, twin-cam 2litre engine, snarling like a single-seater's, offers 130mph.

Now, you may not ever actually need this kind of performance, but the people who can afford these cars don't buy things because they need them; they just . . . well, *want* them. Nor do they buy them to remain incognito: the

rich and famous in a Merak. 924 or Esprit are likely to be about as inconspicuous as Paul McCartney at Tokyo Airport.

The Maserati, especially, is like a magnet. During our test week, small boys — and not so small boys, too — appeared round the car like magic wherever it paused for breath.

The bright-yellow Lotus, too, is hardly the car for the shy and retiring, but don't think that you will climb the social ladder especially fast if you sell your house

over the heads of the wife and kids to buy one. In the upper-crust town of Aldeburgh, Suffolk, where people stare if you *aren't* driving your bank balance, one of our testers was mortified to be asked: 'Just delivering it?'

Porsche extravagance is more understated, but very rewarding: the discreet charm of the Turbo brings compliments from cloth-capped men of military bearing.

But these are simply the incidentals from 2200 miles and two days of arduous (it was, honest!) road and track testing. What *you* are more interested in is . . .

How they go

All three cars quickly proved that they could deliver a lot of excitement *without* breaking the law. Dropping down a gear or two to overtake left us feeling like the Great Train Robber who got away.

DRIVE seldom sees any point in testing on a wet track: loss of traction and braking efficiency are problems that cannot be solved by driving expertise, and the friction of miniature bow waves around the tyres makes any car appreciably slower. On this occasion, time was the enemy, and we decided that it was worth a try despite the damp. At least the figures would be comparable.

A 0-30mph time, however, was out — not just because of the weather but also for fear of what all that power could do to the Maserati's transmission if we fed it in with one big bang. We chose, therefore, to clock 30-100mph, noting the times at 50mph and 70mph along the way.

At the first stopwatch click, the Merak was stamping its authority on the show, reaching the 50mph mark in 2.6sec. Not bad. The lack of bhp didn't seem to worry the Porsche, just 0.1sec behind it, and the Lotus' time of 2.9sec was more than just respectable.

The Merak still had its nose in front as 70mph came up in 6.4sec, with the Porsche cracking along in 6.5sec. By now, the Lotus was struggling a bit at 7.6sec.

By 100mph, the order had changed. The Porsche Turbo reached the 'ton' in 15.4sec — one full second ahead of the Merak, and 4.5sec clear of the Lotus Esprit.

Moving on to overtaking bursts in fourth and fifth gears, the Maserati began to show real breeding. For a fifth-gear 30-50mph, the smooth Italian needed just 9.1sec, while the Porsche lagged at 13.8sec, ahead of the Lotus at 14.3sec. That order held for the 30-70mph pull, with times of 19.3sec, 25.6sec and 26.8sec. In fourth gear, the Maserati was winner again, but the figures were closer: from 30-70mph, our watch clicked off 13.2sec, 13.6sec and 15.9sec.

We'd expect cars like this to

achieve a 1g stop with ease . . . on a dry test track. Under adverse conditions, it was never on; but perhaps it was the Lotus's Formula 1 pedigree that gave it the edge. The Esprit managed a very impressive 95% stop, with the two foreigners bringing up the rear at 87%. All very fine but only half the story, for the Lotus' brakes were also ahead on 'feel'. The brakes of the Maserati and the Porsche aren't as 'dead' as they seem to be, but they don't inspire Lotus-type confidence.

Harsh words have been written about the Citroen-developed braking system on the Merak, and it did indeed prove too easy to lock-up the front wheels. To be fair, though, the Maserati's best stop was achieved with a pedal pressure of 50lb, and *that's* no bad result.

Slight changes have been made to the rear-end suspension of the Porsche 924 — subtle, but enough. It's remarkable that the front-engined car's handling is now as inspired as that of these two mid-engined rivals.

On the test track, the trio displayed no handling vices. All wagged their tails under power, calling for opposite-lock corrections, but that is as it should be. Ten out of ten, all round.

So, finally, it has to be decided on the road . . .

How comfortable

If ride-comfort is the decider, then the Maserati must win hands-down, with versatility to take away your breath as quickly as its price. It's as clever at 30mph on a country lane as it is on the test track at 140mph, and short-sighted passengers can be forgiven for thinking they're in an executive jet. The Lotus is good, but not *that* good. And if the 924 has a real failing, here it is: we felt that Porsche has concentrated its efforts on the *second* 70mph.

For holidaymakers who don't want to send their luggage ahead with the chauffeur in the Mercedes estate, Porsche provides a rear seat of sorts and a hatchback. The Maserati has similar mini rear-seat accommodation, but the boot up-front is far more than a token effort. The Esprit, however, manages little more than a briefcase and a toothbrush, front and back; and inside, if you want to drive in shirtsleeves, your passenger has to fold your jacket on her knees.

The Maserati's leather seats and suede facia satisfy the most discerning. Lotus makes its car look pretty, using lots of mock suede, and Porsche's cloth-and-plastic is stark by comparison.

How much

How much do you care, if you choose to pay £14,000-£20,000 for personal transport? You'll need to write a cheque for £13,802 for

VROOM AT THE TOP
the Porsche, £15,504 for the Lotus, and £19,054 for the Maserati.

Prospective owners can't afford to suffer cash-flow problems, least of all at the petrol pumps. Our overall consumptions worked out: Lotus 25mpg, Porsche 24¾mpg, Maserati 17½mpg. But if most of your trips are short-suburban, be prepared for much, much worse.

Depreciation? Ha-ha, keep fiddling, Nero!

Verdict

Oh dear, oh dear. With unlimited funds and total immunity from responsibility, we'd have . . . no . . . wait a minute . . . oh, all right then — all three of them! For sheer enjoyment at the wheel, though, two of our testers favoured the Maserati, while the youngest plumped for the Lotus.

Ask us if the Merak is *really* worth that much more than the Porsche 924 Turbo or the Lotus Esprit, and we'd have to say 'of course not'. But that's a bit like drinking a £200 bottle of wine and counting the price per swallow.

Wearing our practical hats, we have the gut feeling that the Porsche would prove the wisest buy in the end. And you'd have enough small change left over to buy a Ford Granada for the wife, children and luggage . . .

ROBERT OXFORD



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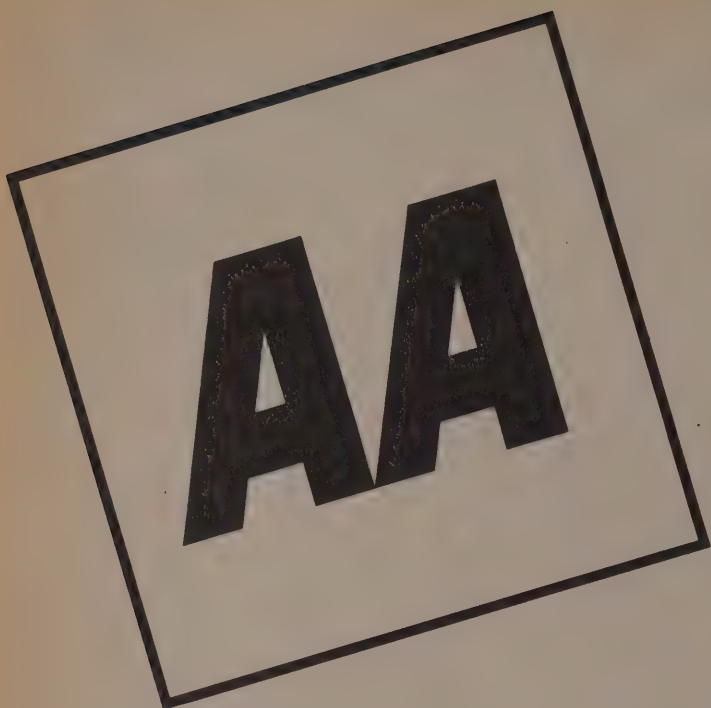


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The AA founded in 1905



Vauxhall moved to Luton in 1905

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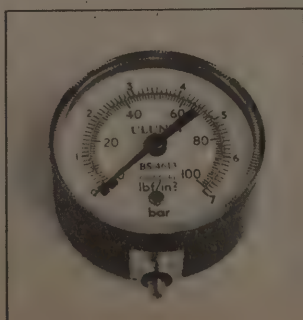
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Hard and fast rules?

Ford Fiesta 1300S

Ford came late to the front-wheel-drive hatchback market, taking years to be convinced that there was money to be made from mini cars. But the time wasn't wasted, for the Fiesta's big selling point was to be its easily and cheaply maintained engine and bodywork.

Time has also changed the public's expectations of mini cars. No longer must they cater exclusively for buyers needing minimal fuel consumption, with a mini price-tag to match — small can now mean quick, too. Enter the pride of the Fiesta range, the 1300cc Sport and Ghia.

Of this dynamic duo, the modified suspension of the S version tempted our testers the most.

How it goes

It isn't hard to see why Ford waited a year after the Fiesta's

launch before adding a 1300cc version to the top of its range. It seems that the Escort's 1.3litre engine was too bulky to allow a simple change of clutch — one of the proud boasts of the Fiesta range — so the compact Kent engine was installed in 1977. A five-bearing crankshaft supplies the smoothness, and the get-up-and-go is provided by a twin-venturi Weber carburettor.

The standard automatic choke makes starting prompt even after a cold, wet overnight stop, and warm-up is quick, too. Our only complaint is of the minor hesitations that the engine suffers before it is fully awake.

Ford's brochure claims that the car will rocket to 60mph from

standstill in 10.7sec — which is slipstreaming VW's rapid Golf GTi (last issue). **DRIVE** prefers to believe our stopwatch's record of 13.1sec — a respectable time that's only 0.6sec behind the Alfasud 1300ti — which should make any Ford brochure-browser happy.

To contradict its optimistic acceleration times, Ford uses the same speedometer-marked gear-change points for the 1300S as it does for less-powerful Fiestas. Their advice falls short of peak power in first and third gears by 300rpm — and the tachometer is so usefully marked that we had to consult the handbook to discover that it's harmless to spin the engine briefly at 6600rpm... Not

a very sporting attitude by Ford.

Experiment on the test-track proved that 6600rpm gives the quickest acceleration *through* the gears, and the engine never complained at being asked to rev like a motorcycle's. Top-gear acceleration times are not so impressive, however, with all of the Fiesta's rivals in our table bettering its 30-70mph time of 28.2sec.

Fortunately, the 1300S's delightful gear change, with its perfectly spaced ratios, makes hurrying a pleasure. It is still probably the best front-wheel-drive gearbox available — and better than many conventional rear-wheel-drive offerings that we could name. Our initial suspicion that the spring bias towards the third-fourth plane was too strong soon passed.

We knocked the Fiesta 950L (July-August 1979) for having a



clutch that comes in with a bang. In this latest version the action was still rather sudden, but the 1300S is a much easier Fiesta to drive smoothly in heavy traffic.

Ford knows more about MacPherson strut suspension than the rest of its competitors, and they're used on the Fiesta's front to give good handling cheaply. Negative-scrub steering geometry is also used to keep the car on an even keel when one wheel encounters ice or mud and we've proved that it works.

To maintain equilibrium while cornering fast, the back end has been tied down by an anti-roll bar. Flattering the S-package buyer's mechanical knowledge, Ford's brochure boasts of adjustable shock absorbers, too, though none of its test cars have them...

The result is a Fiesta that hugs the road and corners with much less understeer than the L and Ghia versions. The desire for these standard-suspension models to keep straight on when faced with an unexpected, high-speed corner has been tamed, but not abolished. We have read reports that this Fiesta's tail can wag the car. They're believable, for the car does approach the limit of its cornering balance when professional drivers play tunes on its pedals, but DRIVE can't imagine even the worst amateur upsetting the Fiesta's composure on the Queen's highway.

DRIVE's only criticism is that such handling behaviour is not likely to excite the driver who appreciates the subtleties of a Sports-package saloon. If the comment puzzles you, follow your test drive of a Fiesta with another in a Fiat 127, or, better still, an Alfa Romeo Alfasud, to discover the difference between sporting pretensions and achievements.

Similarly, the 1300S's steering

HOW GOOD

At-a-glance

DRIVE's verdict on the Ford Fiesta 1300S, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE



FUEL ECONOMY



HANDLING/STEERING



COMFORT/REFINEMENT



INTERIOR/BOOT SPACE



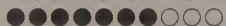
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ACCIDENT/INJURY SAFEGUARDS



RUST RESISTANCE



RELIABILITY/EASE OF REPAIR



is both precise and well-weighted to take the effort out of hurrying but, like that of the rival Volkswagen Polo, it's not as informative as an Alfasud's.

Even disregarding all the options that Ford fits to its fleet of test cars, our 1300S was well equipped, down to its rear screen wash-wipe system. Instrumentation is given sports appeal by the addition of a rev counter to the right of the 5%-optimistic speedometer, and the pair are separated by a combined fuel and temperature gauge and the usual warning lamps.

We still dislike Ford's column stalks, which are clumsy to operate: it's all too easy to switch on the lamps when removing the ignition key, for example. Thankfully, on this up-market version, Ford has moved the windscreen washer's switch from the floor to one of the stalks. Other niceties are a trip meter and a rheostat-controlled panel-light system. Sort your way through the maze of hard-to-reach rocker switches for hazard flashers, heater fan, rear wash-wipe and high-intensity rear lamps and you'll discover a free Ford radio — and it's a good one, too. Beneath that, a quartz clock keeps perfect time.

How comfortable

We were not impressed by the ride quality of the Fiesta 950L, and the stiffer S version is considerably less comfortable. Every time the Fiesta 1300S travels a surface less regular than a billiard table's, passengers know all about it. Comfort isn't helped by inertia-reel seatbelts that lock up at the slightest provocation, so that whenever our tester's stomach was thrown skywards it was rudely halted in mid heave. 'I have been more comfortable on a horse,' was his parting comment. Has the mighty FoMoCo miscalculated this time?

Ford pioneered 'If it moves, paint it black' car styling, and the idea has been revived in recent years to project a sporting image. The Fiesta S's abundance of interior black plastic gave us all claustrophobia, relieved only by the sunroof, painted metal around the doors and stripes in the seat material — the latter inducing queasiness when looked at on the move. We've sat on better seats, too. The front seats' reclining mechanism has only five positions — the Ghia's infinitely variable seats cost more — and their underlayer feels soggy. They didn't induce the half-expected backache, but they did make us feel tired after a day at the wheel.

Tall drivers are able to stretch their legs without squashing those of rear-seat passengers, and in this respect the Fiesta is the leader of its class. As you'd

FORD FIESTA 1300S

Parts/repairs (inc VAT)

clutch £36.32 (fitting 2.7hr)
exhaust £51.23 (0.7hr)
headlamp unit £26.75 (0.3hr)
front bumper £24.62 (0.3hr)
laminated windscreen £33.58 (1.3hr)

oil filter and points £5 (0.6hr)
major service 6000 miles (2.3hr)

Insurance group 3

Warranty 12 months/unlimited mileage

Standing costs per year/12,000 miles

Loss of value £95
Capital interest £243
New-cost inflation £584
Total standing costs=£922 (7.7p per mile)

Running costs

Petrol (£1.20/gal) £379
Insurance (av) £111
Road tax, AA sub £72
Servicing/replacements £102.97
Total running costs=£665 (5.54p per mile)
plus total standing costs gives —
Total cost of ownership £1587
(13.2p per mile)

HOW IT COMPARES

Ford Fiesta 1300S

Colt 1400GLX 3door

Peugeot 104ZS

Renault 5TS

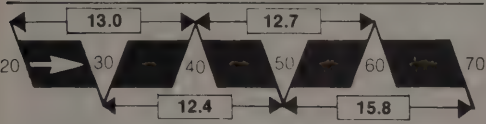
Volkswagen Derby 1300GLS



ACCELERATION

Times in sec

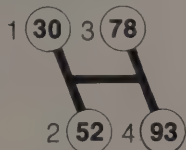
MPH	THROUGH GEARS	IN TOP GEAR
0-30	3.8	
30-40	2.5	6.4
30-50	5.2	12.4
30-60	9.3	19.1
30-70	14.6	28.2



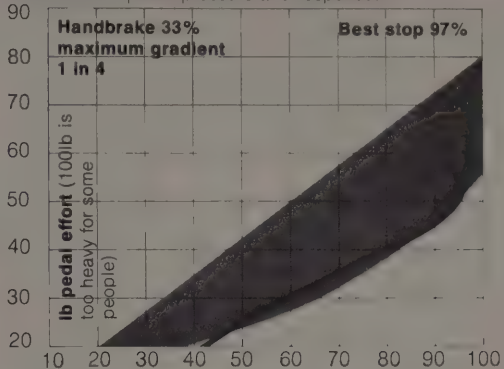
Top-gear speed-range times (sec)

TOP SPEEDS

max engine speed used 6600rpm;
max in top 5500rpm;
standing ¼ mile 19.2sec



BRAKES



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)

37lb at start; 30lb in constant use; 40lb in severe use

Watersplash 6 stops to recover

FUEL

4-star 97 octane min

Consumption — normal range

short journey in the suburbs	31mpg
hard driving, heavy traffic	32mpg
motorway — 70mph cruising	36½mpg
brisk driving — 50mph cruising	39½mpg
gentle driving — rural roads	45mpg
Typical mpg overall	38mpg
Realistic tank range	250 miles/6½gal

Consumption at steady speeds

30mph	60¼mpg
56mph	43¼mpg
70mph	36½mpg
max mph	20½mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	No
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	Yes	doors: crashproof?	Yes
convenient?	No	childproof?	Yes
rear belts: fitted?	No	petrol: spillproof?	Yes
		brakes: failsafe?	Yes
		load sensitive?	Yes

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
4104	1298	38	93	14.6	28.2	97/50	11' 8½"	40	39¾	3½/31½
4049	1410	34	94	13.9P	21.3P	87/50	12' 5¾"	41¼	35	3¾/34
4228	1124	35¼	97	15.7	27.2	88/60	10' 10"	40½	32¾	3¼/31½
4108	1289	36¼	93	14.6	23.4	100/45	11' 6"	38	34½	3¾/32½
4126	1272	36	94	14.0	21.6	86/50	12' 8"	40	35¼	3¾/30½

P=Power mode



expect with a super-mini, however, a full complement of passengers means that luggage space suffers. The chief space-waster is the spare wheel, cleverly hidden under the back carpet. We bet Ford now wishes that it had made more luggage room by squeezing the spare under the bonnet, à la Renault 5 and Fiat 127.

As two-up transport the Fiesta is a winner, its back seat folding forwards easily to make 50in of level load platform. We heartily approve of its full-depth tailgate, which eases the strain of loading heavy items, and there's a hidden compartment for small valuables.

The air-blending heater ought to have been a step forward for Ford, but it disappoints. On the coldest days it can't deliver sufficient heat, and it concentrates on the driver's toes — selfish.

Our test car — like many other Fiestas we have seen — was afflicted by minor creaks and rattles, despite innovations such as the one-piece fascia. That said, the 1300cc engine makes the car much less 'buzzy' than its smaller brothers, and the body-boom periods that plague the little screamers have mysteriously disappeared. The 1300S makes the right noises for the sportsman when it is being pressed, and at motorway cruising speeds it is commendably quiet.

How strong

Ford thinks so highly of its new all-singing, all-dancing rustproofing programme that it sent us . . . an old car that hadn't had the treatment. However, for the 1980 model year onwards, all new Fords are treated to injections of wax in the box sections, pvc round the wheelarches and along the outer edges of the floorpan, and a heavy wax spray on the whole floorpan.

Our corrosion experts remain dissatisfied. With underbody protection, it's not so much what you do as the way that you do it, and even examples of the new treatment that we have examined were a bit hit and miss . . . And, despite claims that rust traps were designed out of the Fiesta at birth,



we have seen an untreated 6000-mile 950L model which was decidedly rusty.

We have praised the Fiesta's mechanical reliability before, and the S-version's 1300cc engine was already proven when this sports version was just a gleam in Ford's eyes. One useful tip for owners, however, is to raise the idling speed. The electric cooling fan seems to switch itself on more frequently than most, and this cuts the revs by 200rpm, causing the engine to become lumpy and even to stall on occasions. Lifting the tickover to 1000rpm can save this embarrassment.

How safe

Ford's development experts originally decided that the Fiesta didn't need a brake servo, and DRIVE agreed, but customers now demand power-assisted brakes. We approved of the system's efficiency, except when subjected to a soaking, but installing this servo has not helped access to the distributor.

Should the Fiesta's failsafe handling ever let you down, the car's secondary safety features will compensate. The steering column, for example, has a breakaway joint to prevent it



spear the driver's chest, and another section cushions the driver who is slammed against the wheel. The now almost universal crumple-zone body, with a rigid centre cell, performs impressively: crash tests prove that the Fiesta can survive almost as well as the far heavier Granada. After much nagging from DRIVE, Ford is now fitting a laminated windscreen as standard safety equipment.

How much

The Fiesta excels in the running-costs stakes, for although the 1300S version isn't all that cheap to buy, it has got to be the cheapest in its class for maintenance and repairs. Holes on the insides of double-skinned sections, for example, save

weight and also make life easy for the panel beater. Externally, the panelwork is divided into no fewer than 20 sections which can be individually sprayed after a scrape. It all adds up to a saving on the insurance rating of two whole groups, compared to foreign rivals' groupings.

Garages find that there are no maintenance problems caused by the bigger engine, and DIY mechanics shouldn't be put off by the handbook's lack of help. But a word to the wise: the 1300's valve order is different from the 950's and 1100's, so check your manual.

At 38mpg overall, the 1300S sips no more fuel than the 1100cc version, so the extra power costs nothing on the road. Controlling your right foot makes 45mpg perfectly possible on a long run.

Verdict

There was a time when a rock-hard ride and a stripe down the side were the only excuses a manufacturer needed to call his offering a sports car. The brash-looking 1300S postures like a baby Ford Escort RS2000, challenging anything with four wheels, but all that its buyer gets is a little more excitement than in an ordinary Fiesta, and more-uncomfortable progress. It's a package that might suit some people all of the time.

While we were thinking that Henry's boys would be better advised to drop this attractive engine into, say, the better-sprung 1300GL . . . they did, but we can't yet report on the result.

Are we getting too old for hectic Fiestas? Maybe, but for us the S-pack's too much to stomach.

ENGINE

Type and size front-mounted, transverse 4-in-line, water-cooled; 81mm bore x 63mm stroke = 1298cc; 5 main bearings; iron block/head

Compression ratio 9.2:1

Valve gear overhead valves actuated by pushrods and rockers (chain driven)

Fuel system one twin-venturi Weber carburettor with automatic choke

Max power (DIN-net) 66bhp at 5600rpm

Max torque (DIN-net) 68lb ft at 3250rpm

TRANSMISSION

Clutch 7½in diaphragm spring single dry plate, hydraulically operated; pedal load/ travel: 20lb/6in

Gearbox 4-speed (all synchromesh) and reverse; ratios: first 3.58:1, second 2.05:1, third 1.35:1, top 0.96:1, reverse 3.77:1

Final drive helical spur gears, 3.84:1 to front wheels

Mph per 1000rpm 16.8mph

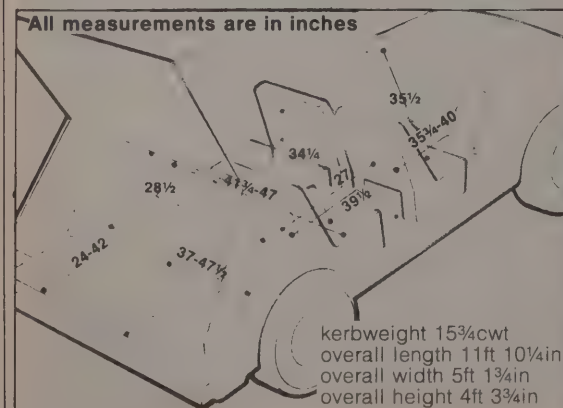
CHASSIS

Suspension — front: independent MacPherson damper/struts with integral coil springs and triangulated lower links; rear: beam (dead) axle with trailing arms, Panhard rod, telescopic dampers, and anti-roll bar

Steering rack and pinion, 3½ turns between full locks; turning circles average 31½ft between kerbs, with 53ft in response to one turn of the wheel

Wheels 4½J rims with 155SR12 steel-braced radial-ply tyres

Brakes dual-line hydraulics; discs front, drums rear, with servo assistance



Motor insurance.

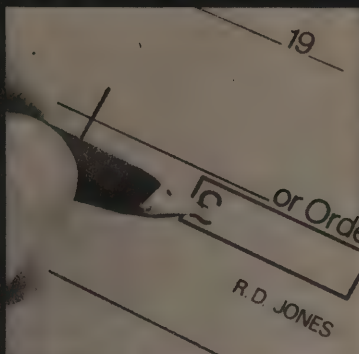
Before the cheque

Is your present motor insurance giving you all the cover you want . . . dependably? All the discounts you could qualify for? At the best value on the market?

It could pay you to find out now . . . before your next premium comes due. You can obtain a check on your premium and cover by using the AA's computer service. The service is free and sifts through a whole range of policies arranged with leading insurance companies and at Lloyds, to select the quotation that suits you best. And you can be sure with AA buying power and expertise, you can have the best cover at minimum cost.

Check some of the discounts you might be eligible for . . . A 20% discount if driving is restricted to husband and wife. A 10% discount if you are over 60, or if your car is over 6 years old. A no-claims discount up to 65% perhaps . . . or substantial occupational savings. You can pay by instalments too . . . in fact as a motoring organisation we've tried to plan insurance to suit you in every way. So put that pen to good use . . . and freepost for the AA quote now.

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Eve:

Occupations Employer's Business

FOR OFFICE USE ONLY

About your car

Make and model of car including details of modifications

Reg. No.

Engine cc Year of manufacture 19 Value £

When do you use your car? *Please delete the word that does not apply.

In addition to private use, will the car be used for:

- (a) Driving to work on three or more days a week? NO/YES*
- If YES, name city, town or suburb where you work
- (b) Business use by yourself only? NO/YES*
- (c) Business use by another person? NO/YES*
- (d) Commercial travelling? NO/YES*

What cover do you want?

Please tick type of cover you require:

Comprehensive ☐ Third Party Fire & Theft ☐ Third Party Only ☐

If you wish to reduce the premium by bearing the cost of any damage to your car indicate (✓) the appropriate amount:

up to £25 ☐ up to £50 ☐ up to £100 ☐

Please indicate (✓) who will drive the vehicle:

- (a) Yourself only ☐
- (b) Yourself and wife/husband only ☐
- (c) Yourself and one named driver only ☐
- (d) Any licensed driver ☐
- In the case of (b) and (c) please give details of other driver or in the case of (d) of youngest known driver.
- Age yrs.
- Length full UK Driving Licence held yrs.

When would you like cover to start? day month year

(Indicate when your present insurance ends).

On that date:

- (a) How old will you be? yrs.
- (b) How long will you have held a full UK driving licence? yrs.
- (c) Have you been resident in the UK for 3 or more years? NO/YES*
- (d) How many years No Claims Discount will you be claiming in your own right? yrs.

Have you or any other person who will drive the car:

- (a) Been convicted or have pending prosecutions for a motoring offence? NO/YES*
- (b) Been involved in any accident or loss regardless of blame in the last five years? NO/YES*
- (c) Suffer from any physical disability or infirmity e.g. heart disease etc? NO/YES*

If you answered YES to (a), (b), or (c), please give details on a separate sheet.

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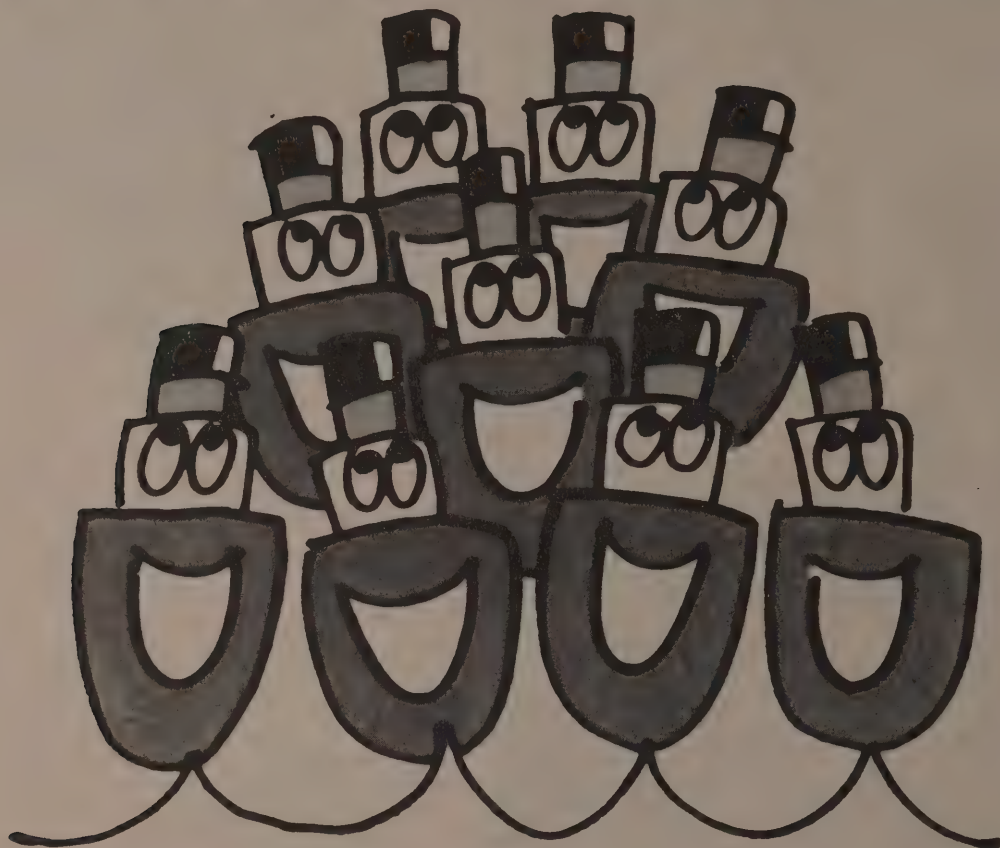
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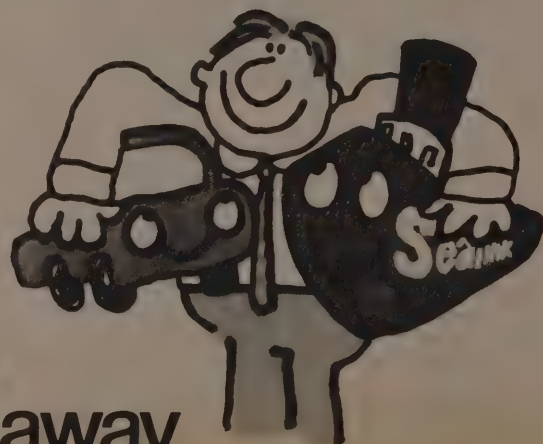
There's something for everyone – motorists, campers, caravanners and

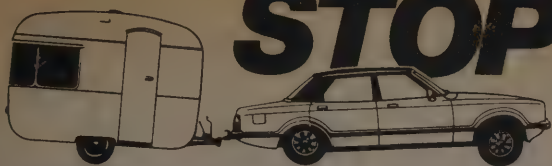
businessmen. Plus lots of holiday ideas, inclusive tours, short breaks, excursions... see the Sealink range of holiday programmes.

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It pays to book as soon as you can, no matter what time of year you are travelling. So make your plans now and see your nearest AA Office and book yourself a better way to get away.

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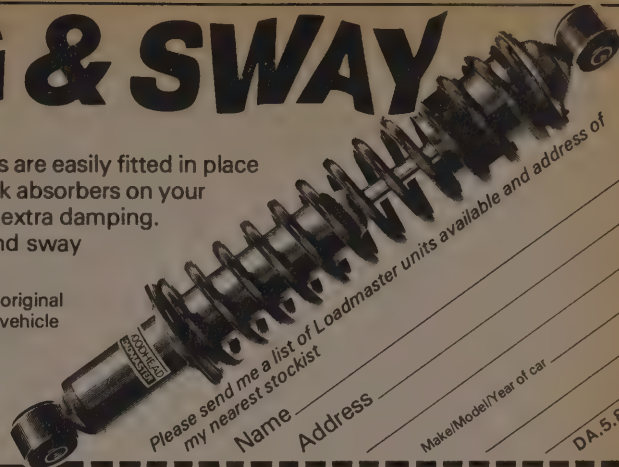


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Make/Model/Year of car _____

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A development from space technology, Sunny Cool is a portable food container which cools or heats — using the heat-exchanging properties of two tiny Peltier elements. There's no compressor, no absorber and, apart from a fan, no moving parts.

Ideal for use in car or boat — just connect your Sunny Cool to the 12V DC supply; either to the cigarette lighter or jack-plug socket.

- Weighs only 7.8 lb when empty.
- Internal volume. 0.28 cu.ft. gross (0.27 net)
- 12V operation, consumption approximately 3.5 amps per hour (cooling) or 1.5 amps per hour (heating).
- Sturdy, shock-resistant plastic case.
- Handle lowers into lid. Clip-in sandwich holder inside.

I am interested in the Electrolux Sunny Cool. Please send me more details.

Name.....

Address.....



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Luton LU4 9QQ.

Post to: Electrolux Ltd., Leisure Products Division, Luton LU4 9QQ.



Electrolux



New Fiesta GL

-the finishing touch

The new Fiesta GL is the finishing touch to complete the Fiesta range – a range of five models from the practical, through the sporty, to the outright luxurious.

The Fiesta GL is full of features, to make life that bit more comfortable, like push button radio, Windsor fabric trim, centre console with clock, illuminated glove box, cigar lighter, load compartment

carpet and much, much more.

Outside it's distinguished by 4½" wide wheels with bright rim embellishers, halogen headlamps, a bodyside moulding and a neat tailgate turnlock, to save you always having to use the key. Servo brakes are standard with both the 1100 and 1300cc engines.

New Fiesta GL – the finishing touch. Put it to the test today.

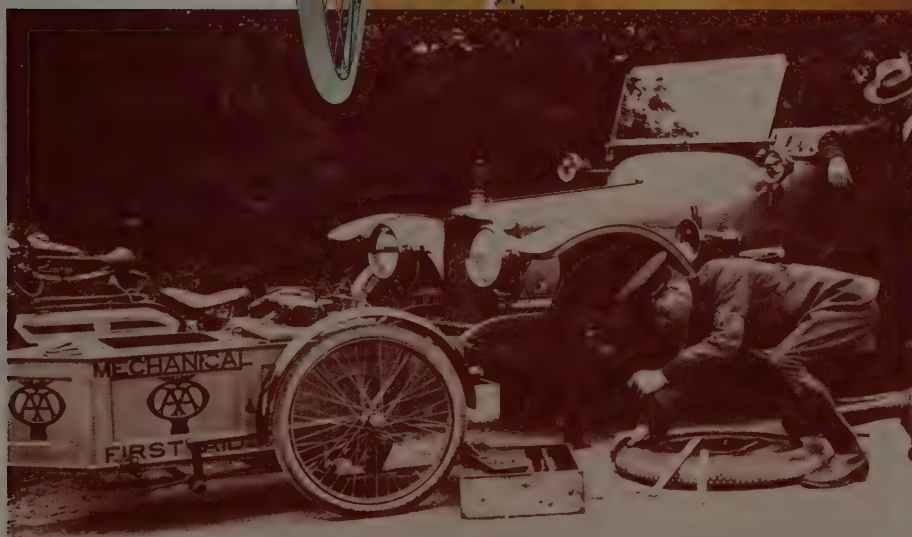
FORD FIESTA



A little help from your friends

1905-1980

No, there wasn't very much that this chap could offer the pioneer motorist stranded by a breakdown. Sympathy and a salute? Yes — that was included in the two-guinea annual subscription. A gallon of petrol? 'I'll just cycle to the next village sir.' A broken propshaft? 'Perhaps a local farmer can be prevailed upon to lend a carthorse to tow you to a garage.' Most important of all, the AA man's badge was used to signify the presence or absence of police speed-traps. Anyway, these benefits were enough to band motorists together on 29 June 1905 to form the Automobile Association. Over the next three-quarters of a century, cars continued to break down, and the AA continued to grow. The following pages tell how...



The breakdown service is born, and the AA discovers a new *raison d'être*. After World War 1, when the threat to motorists from police speed-traps diminished, the Association began to equip its bicycle scouts with motorbikes and sidecar-toolboxes to give the member what he really wanted for the motoring Twenties — roadside assistance.



**BILL
CLUER**
AA Patrol,
1920-1961

'I WAS PAID 45 shillings a week, plus three shillings for my bike ... which I built myself. I patrolled three beats out of Leatherhead, Surrey, to nearby Hook, Ashted and Dorking. I had one day off a week — Monday. I always spent Sundays on "fixed points" — the term used in those days for directing traffic at busy road junctions.

'At that time, we were called AA Scouts; the idea was that we should stop members and warn them of police speed-traps. By the time I joined, some of us had started simply to give a slow-down handsign — which was illegal. My room-mate warned me that a plainclothes officer was about to start watching me, and would run me in for obstruction. I took the hint ...

'By 1920, though, there were 20,000 cars on the road, and breakdown assistance was becoming more important. The AA had 60 boxes by then, usually with a scout on hand to make and take the calls.

The most common problems were blocked fuel lines (petrol wasn't so well refined, then), punctures and cars running dry. Many's the time I cycled to the nearest garage for a gallon.

'During World War 2, a lot of my time was spent directing military drivers — all the signposts had been taken down. I remember an army crew from Southampton asking me the way to Salisbury. "We must be getting close," said the driver. "We've been going two hours."

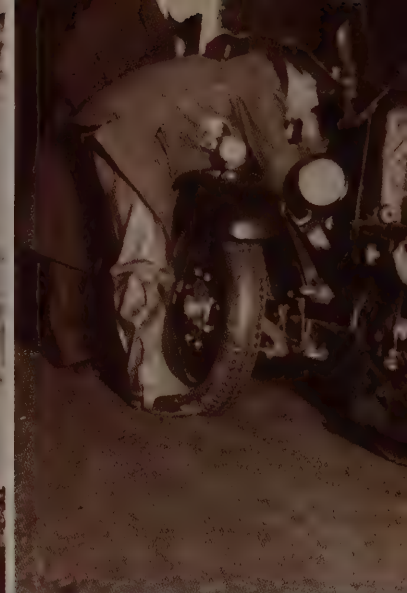
"Going round in circles," I told him. "You're now only two miles from Southampton!"

'The last fuel restrictions were lifted in June 1950 ... and the next Sunday it seemed as if the world and his dog had got their cars out of mothballs. I spent the whole day mending punctures.

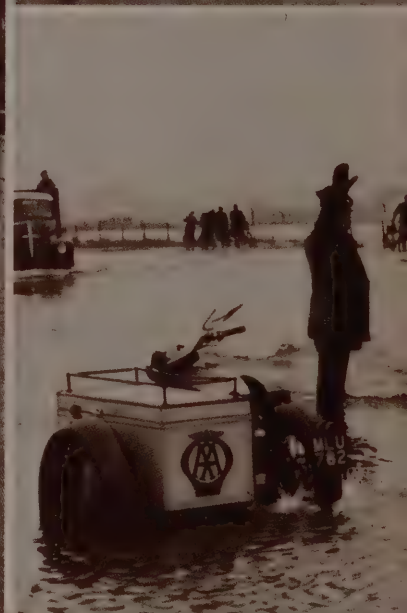
'In the early-1950s, the AA started to replace the bikes with vans and Land-Rovers. I got my first van in 1961 ... the year I retired!



1

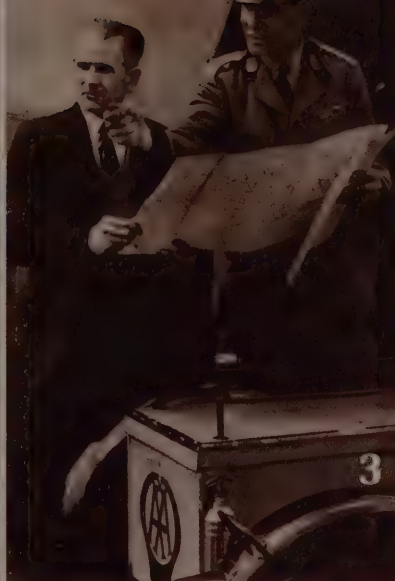


5





2



3



4



6



7



8



9



10

1&5 The awesome winters of 1935 and 1937 proved a boom time for AA signwriters: patrols were out day and night erecting warnings to drivers, and even gritting the roads.
 2 Night patrols, with welcoming illuminated signs, started in 1924; this lucky motorist found one before he stopped work at midnight.
 3 A 1952 patrol in his natural habitat — directing motorists.
 4 Calling all cars — patrol vans went 'radio-active' just after World War 2.
 6 Back in deep water, 1953: patrols volunteered for round-the-clock rescue work.
 7 With petrol rationing ended, 1953 was a very good year for holiday motoring, and the AA was busy directing traffic.
 8 A 1912 patrol group — the motorcyclist was the inspector.
 9 First-aid procedure, 1912: patrols were issued with emergency packs.
 10 The 'Highland patrol' started operations north of Scotland's Caledonian Canal in 1952... and probably immediately regretted it!





Above left: by 1928, many motorists had taken to the air, so the AA supplied specially weighted message bags, complete with yellow-and-blue streamers, with which members could 'bomb' patrols. Top: 1937 help for damsel in distress. Above: 1923 aid for a potholed road.



Equality took to the road in 1929: the AA announced that one in eight of its 415,000 members was female.

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A "go ahead" private
company that still gives
old fashioned service.
Collection & delivery.

Past glories



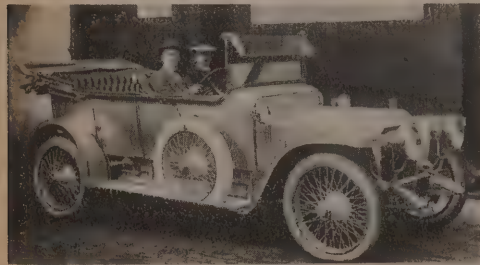
1904 LANCHESTER
Most-advanced cars of veteran era



1905 DARRACQ
'Genevieve' — most-famous veteran of all



1907 THOMAS FLYER
Winner of New York-Paris round-world race



1912 NAPIER
First commercially-successful six-cylinder



1913 ROLLS-ROYCE SILVER GHOST
London-Edinburgh and back in top gear only



1913 TALBOT 25HP
First to cover 100 miles in an hour



1916 DODGE
Pioneer of all-steel bodywork



1919 HISPANO-SUIZA H6B
Advanced, luxury ohc six-cylinder



1922 AUSTIN SEVEN
Four-seater for price of bike-and-sidecar



1925 MORRIS OXFORD 'BULLNOSE'
Britain's answer to the Model T Ford



1925 BENTLEY 3 LITRE
Most-famous sports car of the 1920s



1927 BUGATTI ROYALE
Fabulous 13litre luxury car



1929 ALFA ROMEO 1750 SS
First of the supercharged Alfas



1933 PIERCE-ARROW
V12 'car of the 1930s for the 1940s'



1936 CORD 810
America's revolutionary front-wheel-driver



1948 JAGUAR XK120
Classic British six-cylinder sports car



1949 CITROËN 2CV
The 'umbrella on four wheels'



1951 PEGASO
156mph record-breaker from Spain

'Choose the 10 greatest cars of the past 75 years,' said the Editor . . . and had to close the list at 134. Application and agony brought the number down to 45, and a couple of resignations reduced it to 40 or so. We picture three dozen — yes, we know we've left out the MG TC, Austin-Healey 3000, Morris 1000, etc etc. All complaints and suggestions, please, to: The Editor, DRIVE Magazine, etc etc. And do the rest of the staff a favour: mark your envelope Personal



1908-1927 FORD MODEL T
'Put the world on wheels', 16½million sold



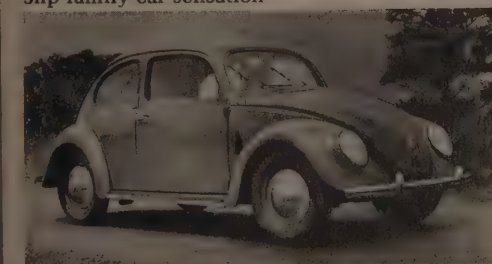
1913 VAUXHALL PRINCE HENRY
Edwardian sportster, predecessor of the 30/98



1922 LANCIA LAMBA
Integral body/chassis, V4, ind front suspension



1927 RILEY MONACO
9hp family-car sensation



1937-present VOLKSWAGEN BEETLE
91million sold, and still selling



1958 FORD EDSSEL
The greatest failure — lost \$250million



1910 DE DION BOUTON
First production V8



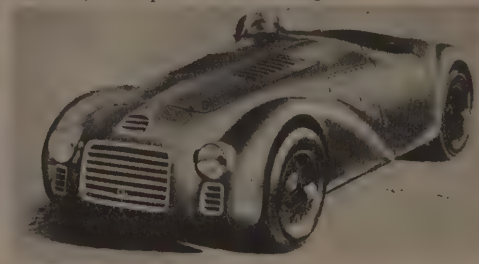
1915 CADILLAC
America's first successful V8



1922 MORGAN GRAND PRIX
The most successful three-wheeler



1928 DUESENBERG MODEL J
6.8litre, 118mph — America's pride



1946 FERRARI 166 INTER
First of the classic V12s from Italy



1959 MORRIS MINI MINOR
Issigonis' idea changed family-car design



1910 DELAUNAY-BELLEVILLE
France's finest, favourite of Tsar Nicholas



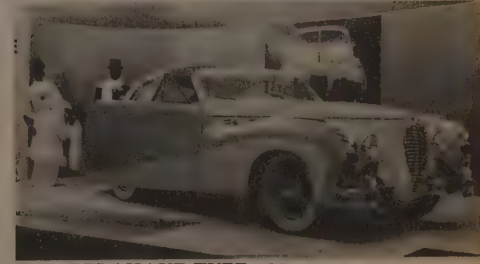
1916 PACKARD TWIN-SIX
World's first production V12



1924 DOBLE STEAMER
Superlative 'puffer' from America



1929 MERCEDES SSK
Potent supercharged 7.1litre German



1947 DELAHAYE TYPE 135
French six-cylinder sportster



1963 LOTUS ELITE
Revolutionary glassfibre sports car

Wish you were here?

Send us a postcard . . . and win a free 75th Anniversary-issue £300 holiday for all the family!



THIS IS THE 'little lake by the hill' — Lochanhully, in Gaelic. It's one of the AA's latest ventures — a 50-cabin, self-catering holiday complex set in Scotland's glorious Spey Valley, prime walking, shooting, riding, climbing, fishing and skiing country. And it could be yours for a fortnight . . . FREE!

Each pine lodge sleeps up to six people. There's a spacious living room (with double-bed sofa for large families), two bedrooms with a double bed and two bunk beds, kitchen and bathroom, plus a verandah. All are centrally heated, and come complete with furnishing for indoors and outdoors; colour television, all bed linen (with duvets) is provided; the kitchen has a refrigerator, electric cooker and is fully stocked with pots, pans, crockery and cutlery; and the bathroom has a shower as well as bath. Cots and high-chairs are available free; cats and dogs are welcome (with prior notice), and, best of all, there is a free daily maid service.

All you bring is yourself. And the five winners of DRIVE's caption competition can choose any fortnight between 6 September 1980 and 11 April 1981, except between 1 and 28 November and 20 December and 2 January.

HERE'S HOW YOU ENTER

Below are four original comic holiday postcards from the turn of the century — the sort of thing that any of the 17 founding members of the AA might have sent home from their 1905 holiday. Only the captions have been . . . well, kind of updated.

What we want you to do is send us your versions of these holiday lines. Imagine that you are on a motoring holiday in the year that the AA was born. But you know as much about motoring as a 1980 driver. With this in mind, invent new captions — no more than 15 words each — to any or all of the comic postcards below.

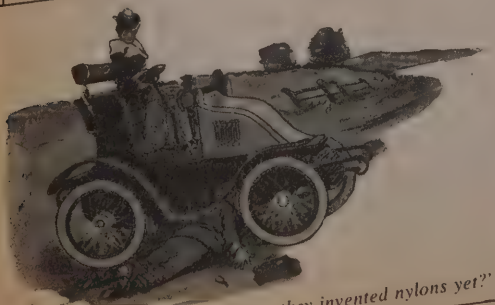
Write your captions on a postcard or plain sheet of paper — don't forget your name and address — and post it to DRIVE Caption Competition, AA, Fannum House, Basingstoke Hampshire RG21 2EA, to arrive by 30 May 1980.



'Honestly — he just jumped out in front of me!'



'I thought you said you'd been towed before.'



'Scuse me, Miss, have they invented nylons yet?'



'Well, I don't think this new AA Relay has much of a future . . .'

Rules Entry is free, but each entry must be accompanied by your full name and address. No entry will be opened until after the closing date. The prizes must be accepted as offered; there will be no alternative awards, such as cash. In the event of a prizewinner declining a prize, the competition will be rejudged. Entries received after the closing date cannot be accepted. No responsibility can be taken for entries lost or delayed in the post. The competition is open to anyone resident in Gt Britain, N Ireland, Channel Islands and Isle of Man, except for employees and families of the Automobile Association, subsidiaries, the printers of the magazine, or any company or person involved in the production of it. The editor's decision will be final, as it is in all other matters affecting the competition. No correspondence can be entered into. The winners will be notified by post and the result published in a later issue of DRIVE.

Camper's Quiz:

How can you fit this complete 24-piece cooking set into your caravan's cramped kitchen?

You get all this:

- Bucket with handle
- Washbasin
- 5 containers & lids
- Non-stick frypan with folding handle
- Kettle & lid
- 1-litre pan
- 3-litre pan & lid
- 5½-litre pan & lid
- Removeable handle to fit pans
- 4 plates
- 4 matching cups.

LESS THAN **£16** Complete

Here's a great idea for caravanners with big appetites and tiny kitchens: an ingenious, 24-piece "stowaway" camping set that packs up into its own compact carryall!

Now, you can carry everything you need for cooking, serving and washing up in your caravan, without taking up a lot of space. Each piece in this attractive set is made of lightweight aluminium and colourful, impact-resistant plastic, so you never have to worry about breakage or damage.

The bucket and washbowl doubles as a 11" x 10" carryall container, and weighs only 7 pounds when it's all packed up and ready to travel.

Easy to carry and easy to "stowaway", the set is easy to own, too, at just £14.95 (plus 95p. p&p). Order today while stocks last. If you're not completely satisfied with your purchase, you may return it to us within 14 days for a full refund. Post coupon or write: The Festival Collection, White Lund Industrial Estate, Morecambe, Lancs. LA3 3DB.

try this.



14-day no-risk offer

The Festival Collection, White Lund Industrial Estate, Morecambe, Lancs. LA3 3DB.

DR01
please send me — "Stowaway" set(s) @
Yes £15.90 each, incl. p&p. I understand that if I am not completely happy with my order, I may return it unused within 14 days for a full refund.

TICK ONE: ☐ I enclose cheque/postal order for £
☐ Please charge my Access/Barclaycard/Trust Card/American Express/Diners Club card.
My account number is:

Mr/Mrs/Miss/Ms
(PLEASE PRINT)
Address

Postcode

Date

Signature

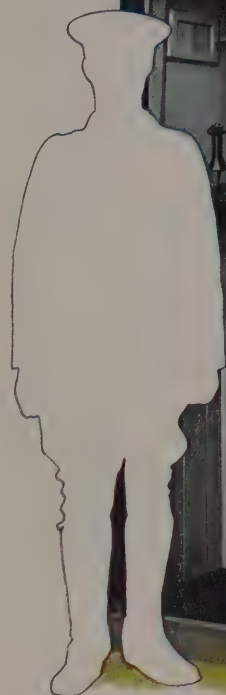
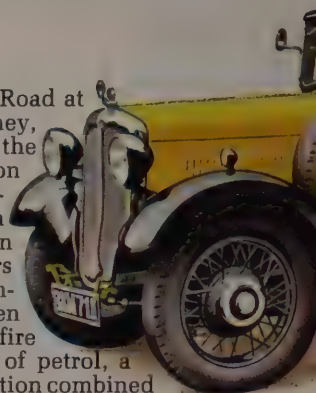
Orders cannot be accepted without a signature. Offer applies only in UK exc. Channel Islands. Reg. No. 394254 England. Allow 21-28 days for delivery.
CREDIT CARD HOLDERS: ORDER BY PHONE.
Just call 0524-61212 and give your credit card name and number.



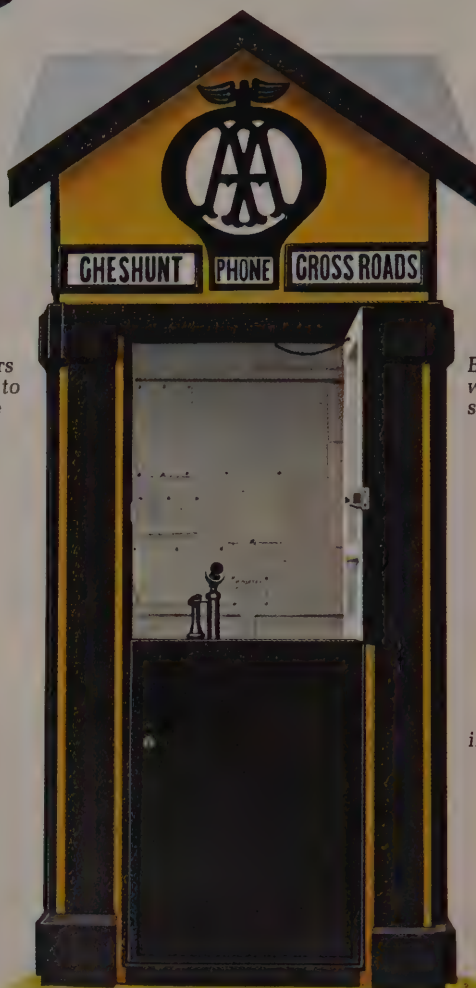
The first boxes, in 1912, were manned by day but locked at night

Boxing days

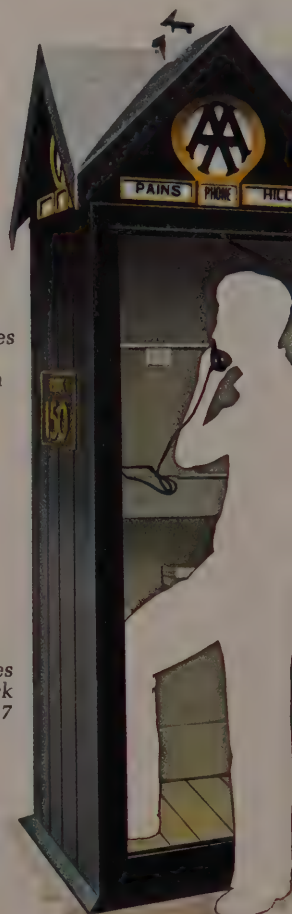
THE FIRST AA boxes went up at the side of the Bath Road at Colnbrook, Bucks, and the Portsmouth Road in Putney, London, in 1912; the AA was putting down 'roots' in the business of breakdown assistance and traffic-direction after seven years of running battles with police speed-trapsters. Within months, there were 30 boxes on main roads, each equipped with a telephone that the Scout on duty — from 8am till darkness — would allow members to use without charge. By 1920, the AA's 150,000 members each had been issued with a key that would open any of 60 boxes around Britain to find the free phone, a fire extinguisher and, if the patrol was on duty, a can of petrol, a first-aid kit and local information. In 1925, the Association combined its new service with one of its original enthusiasms — the 'Super box' appeared, complete with signposts sprouting from the top, and illuminated, too! This was all very well, so long as motoring remained a gentleman's pastime: a gentleman could be relied on to use the phone only for bona fide motoring local calls, or to leave the price of a trunk call in the box. The proliferation of keys among the military during World War 2 — plus hard times for petrol and money — sounded the death-knell for all this, and by the mid-1950s it had become clear that some motorist-commercial travellers were using AA boxes as mini-offices. In 1961, the first GPO-style coinboxes were installed; emergency-gallons became but a memory. The swinging Sixties saw the first of 734 pedestal-style boxes — less vulnerable to vandals. Today, only 180 wooden sentry-boxes remain. And the rest? Many have found their way into private collections and transport museums. But don't try to buy one for use as a garden shed: they're not for general sale.



In 1920, members were given keys to open booths like this, which also contained fire extinguishers



By 1927, the boxes were much sturdier in design



Slim-line boxes came back into vogue in 1947



One for Sir Alf Ramsey's scrapbook

Sign language

UNTIL 1930, AA roads signs were virtually the only signs on the road. Even small towns and villages were usually unmarked until the AA put up a nameplate. Local authorities weren't responsible for erecting warning, information and directional signs until the 1930 Road Traffic Act, and, had it not been for the efforts of first the Cyclists Touring Club, then the Motor Union (with which the Association amalgamated in 1910), but predominantly, the AA, motoring would have been little short of chaotic — as was shown during World War 2, when thousands of AA signs were taken down to confuse the seemingly imminent German invasion force. Then, despite being provided with maps, our own military drivers became the AA patrols' most regular 'customers', asking for directions and even escort.

At least 60 of the AA's village nameplates survive still, while other signs from the past continue to be unearthed. The Association's role in the 1980s is to erect temporary signs diverting traffic round obstructions, or directing drivers to national and local events and places of interest.

The AA's signposting service became mobile in 1927. Pictured is a typical van in use from 1937



The grandest of them all, complete with signposts, were to be found at major road junctions

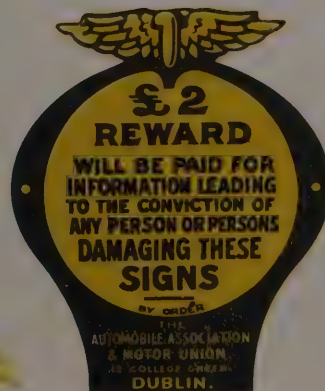
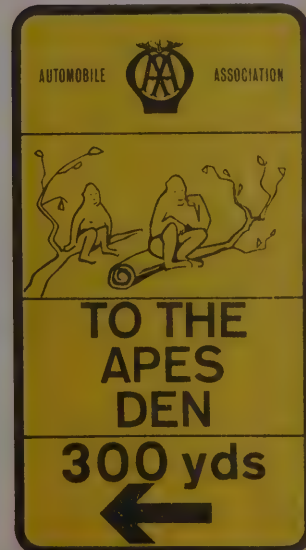


Parking by numbers, 1930



AA-magic lantern — an hotel good enough for 1930s members

Sign of the time: 1960s special-interest pointer

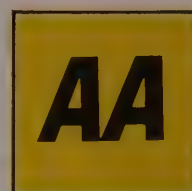


Hands off! — 1914-style

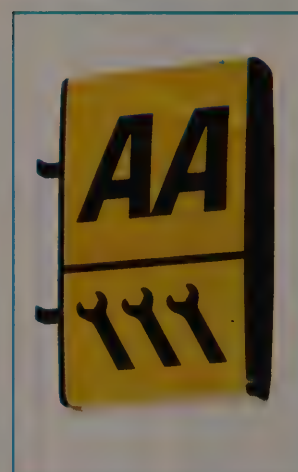
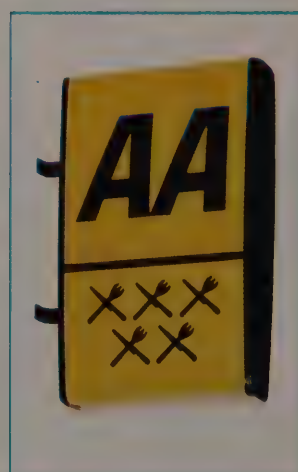
IT'S BETTER TO ARRIVE THAN TO TRAVEL HOPEFULLY

It's no good just hoping your car won't break down. Any car can. But if you're an AA member, we'll make sure you get to your destination using our 24hr. Breakdown Service or the optional Relay Service.

It pays to have the best



Congratulations to the AA from Harold Bloom Signs



HAROLD
BLOOM
SIGNS
LIMITED

Manufacturers of Neon, Plastic, Electrical Signs and Fittings
371/379 ALBANY ROAD, LONDON, SE5 0AA

Tel: 01-701 7376 (all lines)

AT 57.32 MPG IT'LL GIVE YOU A RUN FOR YAMANI.



**Austin
Morris** 
with Supercover

In the recent BP Petrol Stretching Run our Mini 1000 stretched 5732 big miles out of one small gallon, outstretching every other car in its class. If that stretches your imagination, why not test drive the proof?

OFFICIAL DEPT. OF ENERGY FIGURES, MINI 1000; SIMULATED URBAN CYCLE, 38.8 M.P.G./7.3 LITRES PER 100 KM. CONSTANT 56 M.P.H. 48.5 M.P.G./5.8 LITRES PER 100 KM. CONSTANT 75 M.P.H., 33.0 M.P.G./8.5 LITRES PER 100 KM.
LOOK FOR YOUR NEAREST AUSTIN MORRIS DEALER IN THE YELLOW PAGES. FOR TAX-FREE SALES CALL 01-734 6080.

Herbert, Georges, Rudy, André and Norah were here...

They all rose to fame with motor cars — some designing, some building, some buying, some racing, some banning. And one (below) without even being able to drive.

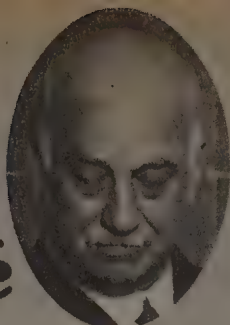


ERNEST GEORGE STENSON COOKE was dubbed Britain's 'Mr Motoring' between the World Wars. Yet, amazingly, he never drove a car in his life.

He is the man who, more than any other, laid the cornerstone of what is today the Automobile Association — the world's largest motoring organisation, with a membership 5¼million strong. He became the AA's first secretary in 1905, a few weeks after the Association was founded, and retained the position up to his death on 21 November 1942, aged 68.

Knighted in 1933 for services to motoring, he and his team pioneered, among other benefits, free breakdown assistance and legal defence for members, overseas touring advice, roadside communications (the Post Office's first public phone kiosk went up 10 years after the AA inaugurated roadside boxes), rural filling stations, and a star-grading system for hotels that is now adopted worldwide.

During his reign, AA membership soared from a mere handful to the pre-World War 2 peak of 721,404.



HERBERT AUSTIN
(1866-1941)
Created first Wolseleys,
and Austin marque



PRINCE BIRA (1914-)
Siamese racing ace of
the 1930s



MARC BIRKIGT
(1878-1953)
Designer of the 'royal
barge' Hispano-Suiza



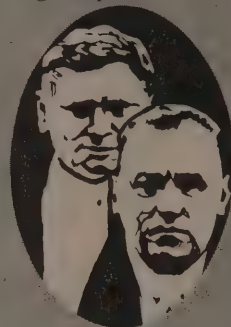
GEORGES BOILLOT
(1885-1916)
The toast of France for his
1912-13 Grand Prix wins



JIM CLARK (1936-1968)
Popular 'flying Scot' was
twice World GP Champion



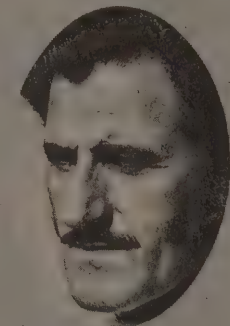
JOHN COBB (1899-1952)
394mph land speed record
of 1947 stood 16 years



JOHN & HORACE DODGE
(1864, 1868-1920)
Pioneered mass-produced
all-steel cars



LADY DOCKER (1906-)
The girl with the
golden Daimlers



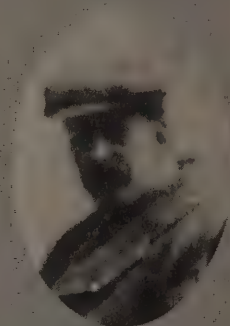
GRAHAM HILL
(1929-1975)
Only winner of Le Mans
24hr, Indy & World Champ



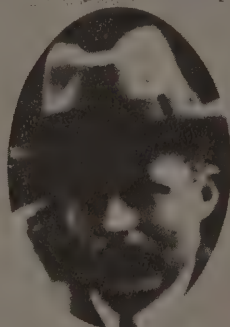
SIR ALEC ISSIGONIS
(1906-)
Designer of the Mini
and Minor 1000



CHARLES JARROTT
(1897-1944)
Racer and co-founder of
Motor Show and AA



CLAUDE JOHNSON
(1864-1926)
Engineered the commercial
success of Rolls-Royce



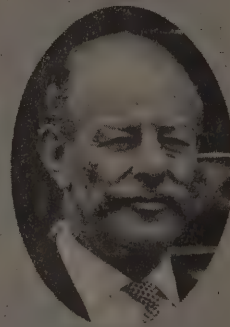
JOHN MONTAGUE
(1866-1929)
First motoring MP; initiator
of vehicle registrations



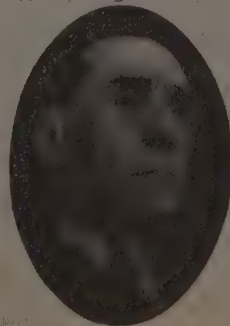
WILLIAM MORRIS
(1877-1963)
Pioneer of British
mass-production



STIRLING MOSS (1929-)
Famed racer, never won
a World Championship



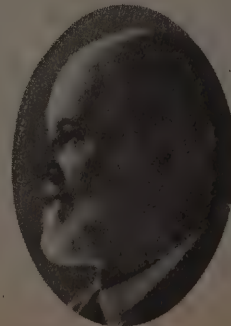
GERALD NABARRO
(1913-1973)
Nabbed exclusive series
of numberplates



LOUIS RENAULT
(1877-1944)
Pioneered light, shaft-
driven cars in 1890s



CHARLES ROLLS
(1877-1910) Technical
director of Rolls-Royce



HENRY ROYCE
(1863-1933) Designer of
'The Best Car in the World'



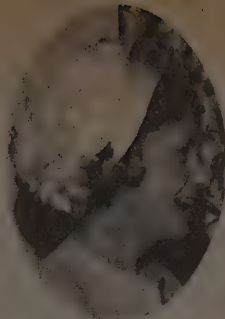
COL DAVID SCOTT
(1932-)
First motorist on the
moon, 1971, at 9.4mph
DRIVE May-June 1980



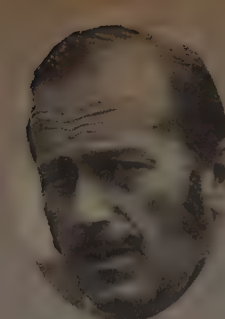
MALCOLM CAMPBELL
(1885-1948)
Broke land speed record
nine times 1924-1935



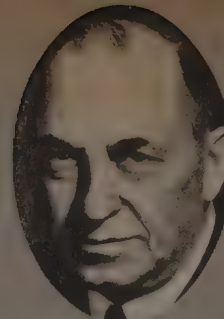
RUDY CARACCIOLA
(1901-1960)
Won each Continental
Grand Prix at least once



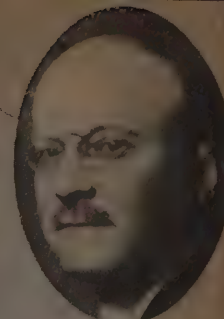
BARBARA CASTLE
(1911-)
Non-motoring Minister
of Transport 1965-1968



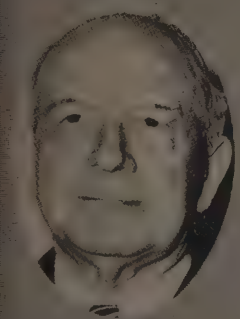
COLIN CHAPMAN
(1928-)
Constructor of Lotus sports
and Formula 1, 2, 3 cars



WALTER CHRYSLER
(1875-1940)
Engineer and founder of
the Chrysler empire



ANDRÉ CITRÖEN
(1878-1935)
Made Europe's first
mass-produced car



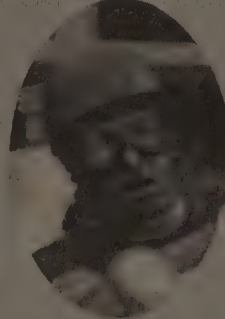
BILLY DURANT
(1861-1947)
Founder of General
Motors



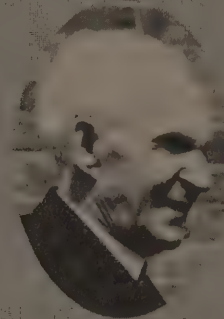
S F EDGE (1868-1940)
Pioneer of six-cylinder
sports cars in 1900s



EDWARD VII (1841-1910)
First motoring monarch,
used a Daimler Phaeton



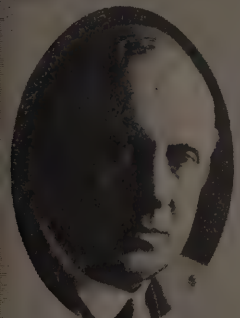
JUAN FANGIO (1911-)
Five times World Grand
Prix champion



HENRY FORD I
(1863-1947)
Inventor of
mass-production



MIKE HAWTHORN
(1929-1959)
UK's first World Grand
Prix Champion, 1958



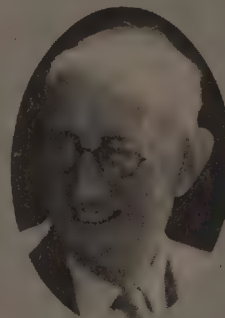
F LANCHESTER
(1868-1946)
Built first all-British
petrol car, 1895



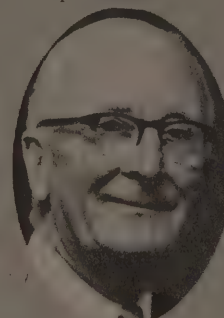
LAUREL (1890-1965) and
HARDY (1892-1957)
Veteran slapstick



C LAUTENSCHLAGER
(1877-1954)
Winner of 1908 and
1914 Grand Prix



LEONARD LORD
(1896-1967)
Created BMC from Austin
and Morris in 1952



WILLIAM LYONS
(1901-)
Founded Jaguar
Cars in 1945



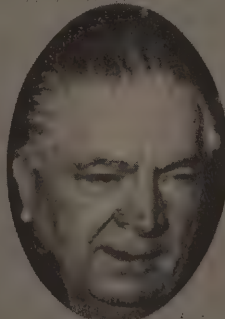
ERNEST MARPLES
(1907-1978) Introduced
the MoT test, 1960



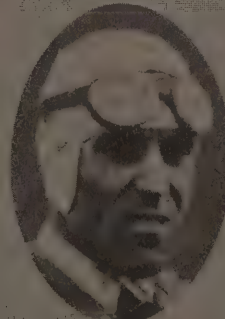
RALPH NADER (1934-)
Challenged GM —
and won safely



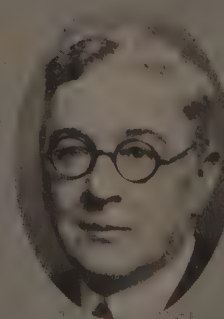
FELICE NAZZARO
(1881-1940)
Italian racing ace,
triple winner in 1907



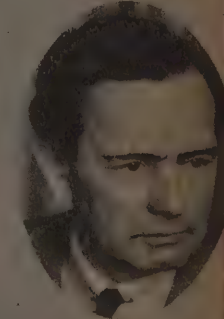
ALFRED NEUBAUER
(1891-1973)
Mercedes-Benz manager for
1930s and 1950s GP wins



TAZIO NUVOLARI
(1892-1953)
Italy's foremost racing
driver of 1920s and 1930s



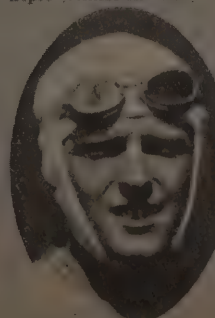
PERCIVAL PERRY
(1878-1956)
Founded Ford Britain 1909
and Ford Europe 1928



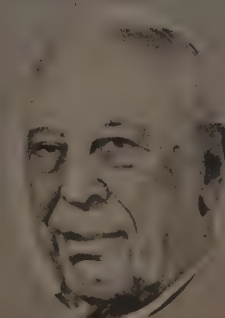
FERDINAND PORSCHE
(1875-1952)
Brilliant designer of
Mercedes, Beetle, Porsche



DICK SEAMAN
(1913-1939)
Britain's top racing
driver of inter-war years
DRIVE May-June 1980



HENRY SEGRAVE
(1896-1930)
'Knight of Speed', won 31
races; first to top 200mph



ALFRED SLOAN
(1875-1966)
Organised General Motors
into world's largest maker



JACKIE STEWART
(1939-)
Three-times World
Champion, 1969-1973

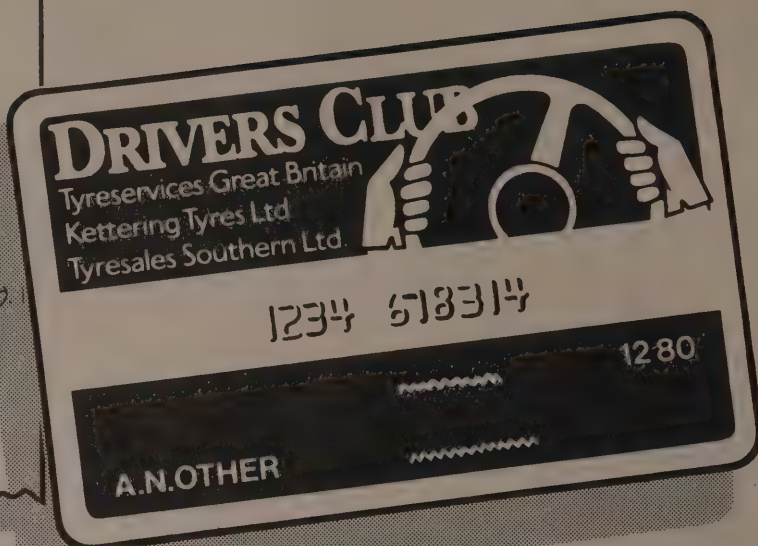


FERENC SZISZ
(1873-1970) Hungarian
winner of first Grand Prix



RUDOLPH VALENTINO
(1895-1926)
Car connoisseur and actor

Tyres £30.80
 Exhaust £29.00
 Battery £21.85
£81.65 (INC. VAT)



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Aaah. Now Drivers Club softens the blow and makes it much easier on your pocket.

Drivers Club is a simple way to spread the rising cost of keeping your car safe and roadworthy.

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Pay a fixed monthly sum from £5 to £20. Spend up to 20 times that amount — £100 right away if you wish, INSTANT CREDIT.

As you repay you build up more credit for your next purchase. Thus the little lot shown above

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AVAILABLE TOO.**

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KETTERING TYRES AND EXHAUSTS;
TYRESALES SOUTHERN LTD.**



- * Up to 25% higher mileage.
- * Up to 18% better wet grip.
- * Up to 10% improvement in handling
- * Up to 10% less rolling resistance for greater fuel economy.

**CLIP
COUPON
POST
TODAY**

*Subject to status. Current interest rate is 2.25% per month on the outstanding balance, equivalent to an annual rate of 30.6%

To: Drivers Club, (Tyresales Southern Ltd.), 312 High St., Sutton, Surrey.
 Please send me full details of Drivers Club and Privilege Purchase.

Name _____

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**R-J-W
SPECIAL
SELECTION**

Tony Jacklin OBE Britain's most successful international golfer over the past decade says...
"I use my luggage more than most people, and I can fully recommend the R.J.W collection for its durability, good looks and excellent value. In fact the perfect first class travelling companion"

Long Addie
Tony Jacklin

LUXURIOUS LUGGAGE for travellers of distinction



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At just £29.95 for 4 full size pieces, this must be Britain's best luggage value. So you can take all your holiday gear with you, we have selected 3 big cases: 26" x 18" x 7 1/2", 24" x 16" x 6 1/2" and 20" x 14" x 6" approx. The latter makes the ideal overnight or weekend case. A matching 12" x 11" x 5" approx. flight shoulder bag complements and completes the collection. It features three roomy compartments to swallow all your bits and pieces. So handy in transit and perfect for every day of your holiday. The extremely attractive heavy duty vinyl will stand up to the roughest treatment without complaint and can be wiped clean with a damp cloth or sponge. This collection is easily stored, each case fits neatly inside the other.

ONLY
£29.95
+carr.

There are two attractive colours to choose from: Rich Tan with Black interior or Sea Blue with Black Interior.

The Intercontinental De Luxe Travel Valet **£18.95** +carr.



The lightweight R.J.W Travel Valet will carry your every long or short stay need in style without crumples. Spacious fully enclosed main compartment holds two suits comfortably and is softly lined for protection. In addition 4 extremely spacious zippered compartments offer room for shirts, socks, ties, underwear, pullovers and shoes plus razors, toiletries, alarm clock and radio. Outside a large softly lined zippered compartment fulfils a role of a briefcase - straps hold raincoat, umbrella and newspapers etc. Comfortable padded handle and detachable shoulder strap make carrying easy. Travel Valet is classified as hand luggage, making for speedy airport exits. There's no need to unpack. Travel Valet has its own hook, so you simply hang in wardrobe. Everything is kept secure by straps with buckle fastening. Finest hard wearing Polyurethane vinyl looks like leather and can be easily wiped clean. Contrasting burgundy piping and trimmings add extra strength and complete the luxurious appearance. Colour black. Size: empty 43" x 23 1/2" x 3 1/2" approx. open. Size: empty 21 1/2" x 11 1/2" x 7 1/2" approx. closed.

COMPARE THESE SPECIAL FEATURES

- A choice of two fashionable colours. • Superb polished metal fittings. • Exceptionally robust construction throughout. • Lightweight, heavy duty, wipe clean vinyl of the highest quality. • Double safety straps with buckle fastening. • Special centre safety strap with distinctive green and red fabric stripe. • Buckle fastening. • All-round, heavy duty zip fastening with security padlock. • Large, padded handle make carrying easier. • Full size, interior lid pocket with straps. • Elasticated straps hold clothes in place. • Smart, wipe clean interior finish. • Name and address tags with each case. • Special metal domes protect base when standing.

Any item can be delivered to your door within approx 21-28 days. Should you for any reason not be 100% delighted, return within 21 days of receipt for an immediate refund.

THE FOLDAWAY PORTERMAN CASE CARRIER

Why struggle and strain? Let the Porterman do the humping for you. It's robust, lightweight and completely portable. Quality tubular steel body featuring a fold flat platform, solid tyred wheels and folding handle. Extended it measures 34" x 10 1/2" approx. when folded flat 19 1/2" approx. Complete with elasticated strap to secure luggage.



**SUPERIOR CASE
CARRIER ONLY **£4.50**
+ carr.**

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56-58 Green Street, London, E.7.

Please send me:
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(inc £2.05 carr & ins per set)
Porterman Case Carrier(s) _____ at £5.75
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(inc £1.25 carr & ins) Umbrella not included
I enclose cheque/Postal order for £
or debit my Barclaycard/Trustcard/Diners Club/
Access/American Express

No:

SIGNATURE _____

NAME _____

ADDRESS _____

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**Congratulations
to the AA
on its 75th
Anniversary**

75th

Mercantile Credit is proud to have provided exclusive loan plans for AA members over the past 14 years, lending them nearly £400 million.

Anniversary

Lower interest rates for AA members

The ability to obtain loans at interest rates below those generally charged by Mercantile Credit has become an even more important privilege of AA Membership. And with price increases seemingly always in the pipeline, waiting while you save isn't prudent any more. That simply means having to pay a higher price... if your savings run to it. With an AA Members Loan you can buy now, at today's prices, and make real savings.

The wisdom of using an AA Members Loan for major purchases is endorsed by the fact that over 750,000 loans have been made, totalling almost £400 million.

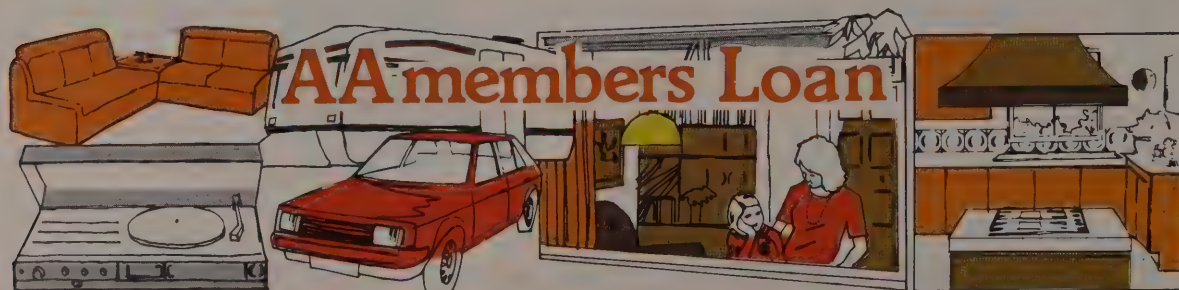
Here are some of the reasons for the popularity of this exclusive facility:

- * The loans can be arranged, simply and confidentially through the post.
- * When your loan application is approved, you receive a personal cheque within a few days, so you can shop around with all the advantages of paying cash.

The loan, of course, enables you to spread the cost by monthly instalments and, remember, your instalments are lower than under our standard finance plans because you enjoy the specially reduced interest rate arranged exclusively for AA Members.

HOW MUCH? HOW LONG? The minimum initial loan is £200 and usually repayment can be spread over periods up to five years and even longer for more costly home improvements.

All loans are subject to compliance with government controls; for example, the maximum loan on a motor car is two thirds of the cost and the longest payment period is 24 months.



APPLY NOW. Below are tables at the rate of interest correct at the date of printing which will help you to decide on the loan which suits you best. Complete the application form below and post it to Mercantile Credit, FREEPOST, P.O. Box No. 75, London WC2B 5XA. ...no stamp is needed, we pay the postage.

AA MEMBERS FIXED TERM LOAN MONTHLY REPAYMENT TABLES

Interest on amount of loan: 1-2 years - 14.5% flat for each 12 months.

3-5 years - 15% flat for each 12 months.

Amount of loan	12 Months True rate 29% p.a.		24 Months True rate 28.5% p.a.		36 Months True rate 28.5% p.a.		48 Months True rate 27.5% p.a.		60 Months True rate 26.5% p.a.		Amount of loan
	Interest	Monthly Payment	Interest	Monthly Payment	Interest	Monthly Payment	Interest	Monthly Payment	Interest	Monthly Payment	
£	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£
1000	145.04	95.42	290.00	53.75	450.08	40.28	599.84	33.33	750.20	29.17	1000
950	137.80	90.65	275.44	51.06	427.36	38.26	570.16	31.67	712.60	27.71	950
900	130.56	85.88	261.12	48.38	405.00	36.25	540.00	30.00	675.00	26.25	900
850	123.20	81.10	246.56	45.69	382.64	34.24	509.84	28.33	637.40	24.79	850
800	115.96	76.33	232.00	43.00	359.92	32.22	480.16	26.67	599.80	23.33	800
750	108.72	71.56	217.44	40.31	337.56	30.21	450.00	25.00	562.80	21.88	750
700	101.48	66.79	203.12	37.63	314.84	28.19	419.84	23.33	525.20	20.42	700
650	94.24	62.02	188.56	34.94	292.48	26.18	390.16	21.67	487.60	18.96	650
600	87.00	57.25	174.00	32.25	270.12	24.17	360.00	20.00	450.00	17.50	600
550	79.76	52.48	159.44	29.56	247.40	22.15	329.84	18.33	412.40	16.04	550
500	72.52	47.71	145.12	26.88	225.04	20.14	300.16	16.67	374.80	14.58	500
450	65.28	42.94	130.56	24.19	202.68	18.13	270.00	15.00	337.80	13.13	450
400	58.04	38.17	116.00	21.50	179.96	16.11	239.84	13.33	300.20	11.67	400
350	50.80	33.40	101.44	18.81	157.60	14.10	210.16	11.67	262.60	10.21	350
300	43.56	28.63	87.12	16.13	134.88	12.08	180.00	10.00	225.00	8.75	300
250	36.20	23.85	72.56	13.44	112.52	10.07	149.84	8.33	187.40	7.29	250
200	28.96	19.08	58.00	10.75	90.16	8.06	120.16	6.67	149.80	5.83	200

For loans in excess of £1,000, interest and monthly payment are pro rata

Above rates effective as at 1st May 1980

Application Form

Post to: Mercantile Credit Co. Ltd., FREEPOST, P.O. Box No. 75, London WC2B 5XA.

Surname	DEPT.	SERIAL NO.	CHECK DIGIT
First Names			
Married <input type="checkbox"/> Single <input type="checkbox"/> (Tick as applicable) Date of Birth	Occ. Code		
Nationality	AA Membership No.		
Are you in good health? YES <input type="checkbox"/> NO <input type="checkbox"/> No. of dependent children	Purpose of loan (give details)		
Full postal address			
Postal Code	Tel. No.		
How long at present address?	Total cost of goods or service	£	
Owner <input type="checkbox"/> Tenant <input type="checkbox"/> House <input type="checkbox"/> Flat <input type="checkbox"/> Rooms <input type="checkbox"/> Living with parents <input type="checkbox"/>	Amount of cash required	£	
Profession or trade	Repayment period required in months		
Name of employer	Average net monthly take-home pay (i.e. after deduction of Income Tax, N.H.I. Contributions, etc.)	£	monthly
Business address	Any other income	£	monthly
	Please submit your latest P.60 or other annual advice or at least two monthly/weekly pay slips.		
How long in their employ?	Mortgage payments/Rent	£	monthly
Bankers	Credit payments	£	monthly
Bankers address (in full)	Any other regular payments	£	monthly
	Give details		
Do you hold a Barclaycard? YES <input type="checkbox"/> NO <input type="checkbox"/>			

I/We submit this proposal to you for a loan of £.....and I/we warrant the accuracy of the replies. You may make all enquiries necessary to enable you to consider this application and from time to time disclose to the National Credit Register details in respect of this transaction excluding any information relating to income. If you need to clarify any information, in the application form, or obtain my agreement to the amendment of any documents, please regard this as a formal request to visit me at my home. It is understood that you reserve the right to decline this application without stating a reason. Membership of the Automobile Association or a previous or current account with Mercantile Credit do not of themselves ensure acceptance.

SIGNATURE _____ DATE _____ **875**

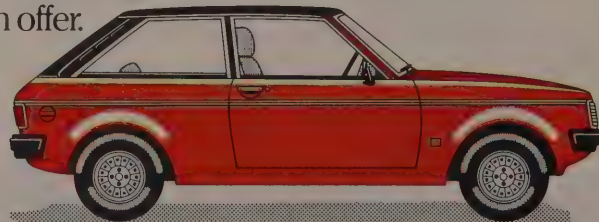


SUNBEAM. THE FREEDOM RIDE

Sunbeam's compact outside and amazingly spacious inside mean freedom all the way. Freedom to nip and park around town, freedom from cramp and luggage problems.

It's all part of Talbot's campaign to give maximum freedom with every Sunbeam. A campaign that begins with the freedom to choose from a superb selection of fast, quick, powerful, manual, automatic, LS, GL and

GLS Sunbeams. A campaign that brings every Sunbeam owner a freedom from worry, discomfort and expense that no other car can offer.



 **TALBOT**
ON THE MOVE

Ah, yes—I remember it well

IVOR MORGAN, 64, from Caerphilly, S Wales, had to be coaxed into telling us his motoring story of a lifetime: he thought that since it concerned motorcycles, we wouldn't be interested. We're glad we pressed him.

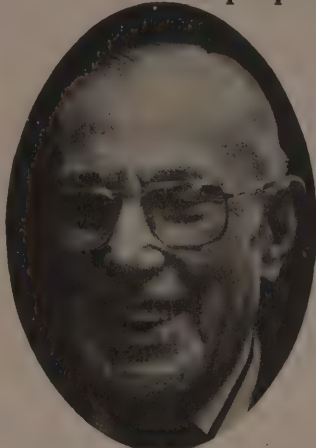
'I bought my first bike — an AJS — for 15s in 1926, when petrol was 1s a gallon. I'd scrape up the shilling by fastening a rope and an old scooter to the back of the bike, and towing local kids round the block at 1d a circuit. Broke a few wrists doing that . . .

'But that isn't The Story. It happened when I had a Panther 500. Like most bikes in those days, it had an oxyacetylene headlamp: a canister of water dripped on to carbide, produced gas — light up and go.

'Now, one black night I was riding over Caerphilly Mountain when I came across another motorcyclist, dressed in the customary leather suit, flying hat, goggles, and standing beside a blacked-out bike. Run out of water, y'see.

'Well, I pointed out that every human being carries a source of water that would work quite nicely, if you see what I mean.

What was it really like in the good old days, when men were men and cars were mechanical horses? There's only one way to find out: ask the people who were there . . .



or night, so the garage — and Victor — obliged.

'You could say that I taught myself to drive. After the boss had been round, we would borrow a car from the showroom and go driving in the small hours of the morning. We never had an accident, even though the roads were a lot more dangerous in those days: there was all that horse-drawn traffic.'

The garage also had a Ford franchise, to cater for the lower end of the market: £300 for a chassis, £100 for the body. The chassis came from Manchester and the bodies were built in Birmingham, and such was Victor's illicitly gained expertise that he was given the precarious job of driving the 'skeletons' from one to the other.

He then took a job as a chauffeur to a doctor, and enjoyed the delights of driving a very hefty American car called an Overland. Didn't the doctor drive himself? 'Oh yes, he loved driving,' explains Victor, 'but he loved malt whisky, too. He was always far too drunk to control a car, but quite fit enough to deal with the infirm . . .'

1939-1945 AA patrols at home spray their motorcycle combinations khaki 'to avoid detection by enemy aircraft', but retain yellow badges so that 'no member is deceived on the ground'. Enemy aircraft, however, detect AA offices at Liverpool, Bristol and Leicester Square. Bombing results in war-damage claim to Germany for £25,800.

'ALL MY LIFE I've loved motorbikes and cars,' confesses 80-year-old Mrs Mary Bertelli. 'As soon as I was old enough, I bought a secondhand Douglas motorcycle. I was thrilled to bits — the sheer excitement of it all. Of course, it caused a sensation at the time. Young ladies were supposed to wear layers and layers of petticoats; I wore a kilt. Showing a bit of leg was thought very "fast" and forward. The young men used to fall in love with me for my daring exploits. And the women . . . well, they were jealous.'

'Then I moved on to cars. The Morris Cowley, with its funny bullnose, has always been my favourite: such good value for the money, and, unlike most cars of the time, reliable. I had an Austin 7, too — good but dull; and a Lagonda, an Alvis and a Bentley — all lovely cars.



'Nowadays, you've got all the luxuries in the world, but it's just not the same. All the cars look alike — factory churned-out. All the excitement's gone. So dull . . .'

'THE FIRST car I ever drove got me into terrible trouble,' admits 80-year-old Fred Lewendon. 'I was a 15-year-old stable-lad at the time, and had no business driving any car, least of all the master's Panhard Levassor. It was a wild, wet night, and I had just accompanied the lady of the house to the station to meet the master off the late train from London. After we returned, and the car had been put away, I had

the bright idea of getting it out again to give it a polish.

'Everything went according to plan . . . until I went to reverse the car back into the garage. The wind had blown the door shut, and I backed straight through it, taking off one of the Panhard's



running-boards on the way.

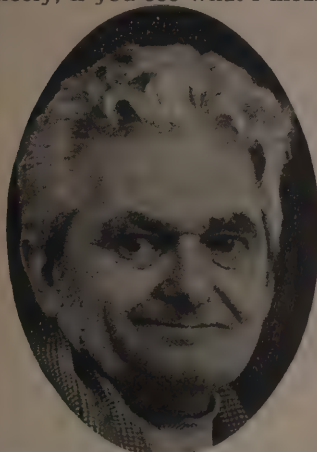
'Was my face red! I fixed the damage to the car as best I could, and then I went to own up. Luckily, they forgave me.'

'YOU COULD go for months without seeing a car when I was a lad,' says 70-year-old Fred Hill. Fred used to work on a farm near Kingsclere, Hampshire, and vividly remembers the first car that came through the village — an American Studebaker.

He went to work on the farm at the age of 14 for 6s a week, rising to 12s 6d at the age of 18. When his employer fell ill, it was Fred's big chance to drive the farmer's wife around in their much-prized Morris. Sadly, that was the end of Fred's motoring career.



1946 Former AA patrols resume duties, often in battle-dress, due to impossibility of obtaining uniforms. Breakdown service offers members reimbursement for costs incurred.



The poor soul had thought of that, but couldn't quite manage it. Without a second thought, I said "Stand back and I'll oblige" — which was quite a relief to both of us. It worked a dream. We lit the lamp, waved and rode off into the night.

'Three weeks later, I had a letter with 50 Player's cigarettes inside. The letter said: "Dear Mr Morgan, thank you for your assistance etc, signed . . . Miss Molly Jones"'

VICTOR BOARD, 82, began work before World War I as a petrol pump attendant at a Birmingham garage that specialised in Angus-Sandersons — cars with a sporting flavour, aimed at the well-heeled. These were the sort of customers who insisted that fuel should be available day

A star is born

Bournemouth, 1911

THE LONE SLEUTH hesitated in the doorway of the Edwardian hotel drawing-room; he stood just long enough to take in the scene within, without drawing attention to himself. He had to protect his cover. Waxed moustache bristling, he advanced towards an easy chair, only the rustle of his plus-fours disturbing the silence. Cautiously, he drew back the antimacassar ... but the expected grease-spot wasn't there, nor on the upholstery beneath. Someone had cleaned up here in recent hours.

Undeterred, he headed for the bath-



Royal Bath chairs, 1911 — guest transport

room — roller towels usually carried some trace of a previous guest. Perhaps the wall cabinet would hold a grisly clue — a brush with strands of brilliant-tined hair still clinging to the bristles? But no, the clean-up had been thorough.

Smiling ruefully, he went downstairs to a superb dinner and afterwards, in the privacy of his room, drew out a small notebook in which he entered five asterisks. The AA hotel inspector had found his first five-star establishment...

So it was that, in the Members' Handbook of 1912 — the year that the Automobile Association became the first

1950 AA decides members need help in driving across London: women driver-guides, in distinctive khaki uniform, taken on to dodge the city's hazards.



The way we lived then — Bournemouth prom in the summer of 1911; and, bottom of the page, where the AA man stayed — the Royal Bath. Below: the Royal Bath as it is today.

organisation in the world to introduce and publish gradings of hotels — the Royal Bath at Bournemouth was among the dozen best hotels in the country.

Bournemouth has altered a lot in the



The Royal Bath Hotel, Bournemouth
(Facade a dreamer overlooking the sea)

last 68 years. Today, far from having to be dressed from neck to knee when lazing on the sands, there is even a beach for nudists. And long gone are the days when the sum total of Bournemouth nightlife was classical music at the Winter Gardens or perhaps a play at the now-defunct Theatre Royal.

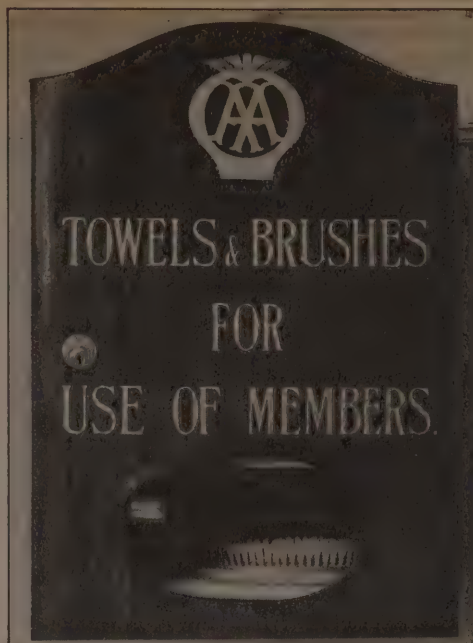
One thing, however, hasn't changed: the Royal Bath is the only hotel from the AA's original list of 301 that still boasts a five-star rating — quite a distinction, when you compare the guide-books of 1912 and 1980. Today, there are nearly 4000 AA-graded hotels in the UK, and only 23 have the top accolade.

It was the AA's first secretary, Ernest

1951 AA reports that continued restrictions in allocation of new cars to home market are creating difficulties and disappointments. Some orders outstanding 'for many years'.

George Stenson Cooke, who laid the foundation of the star-rating system for hotels. A former traveller in wines and spirits, he borrowed the method used by distillers to grade brandy — according to the number of stars on the label. A 3-star brandy was middle-of-the-range, so Cooke suggested that a 'really decent, average, middle-class hotel should be awarded a similar classification. Those below that standard of construction and management,' he went on, 'can be starred down to two and one. Those exceeding its standard in size and luxury can be starred up to four or five.'

His directive to the first inspectors declared: 'You must guard against all sorts of little tricks. For instance, when you look into a bed — after peeping under it for possible dust — and find sheets with two obvious sets of creases, they are not clean sheets; they have been



For the chosen few — AA pioneers' perk

used before and simply pressed in order to look clean.

'You must not miss a thing. Bathrooms and lavatories claim especial attention. So do tablecloths with smudges, serviettes with fingerprints not traceable to you, knives and forks with cleaning powder carelessly left on, plates with spots of obstinate mustard. Look for all this to be used, when found, in evidence against.'

And the aim of the exercise? Said Cooke: 'We can imagine the landlord's lady of the Crown and Anchor looking down on Mrs Blue Boar because the former has a two-star grade while the latter has only one. There will be no rest until that second star has been earned. That kind of rivalry is what we want,

and will make for everybody's good.'

A bonus for AA members when staying at appointed hotels was access to a special cabinet, provided by the Association, that contained handtowels and an assortment of brushes. Clearly, Stenson Cooke felt that anyone belonging to his organisation should not be exposed to anything as common as a roller towel!

These days, star-classification requirements are tougher and more objective. Now, the emphasis is on facilities and service — the number of rooms with bath and toilet en suite, the level of comfort, the standard of cooking, calibre of staff, fire-escape arrangements, and whether the tariff represents value for money. Just six years ago, the AA introduced a new red-star grading — for hotels considered to be of outstanding merit within their normal star ratings and offering something special in the way of welcome and hospitality.

Naturally, for assessments to be made properly, it is vital that the hotel does not know that one of its overnight guests is an AA inspector. But playing the part of an innocent visitor while getting on with the job is easier said than done, especially at the dinner table, where an open notepad is a sure giveaway. One enterprising inspector took to jotting details on holiday postcards — writing to the folk back home is, after all, a perfectly normal activity for an hotel guest. That ruse backfired, though, when one maitre d', who was an enthusiast for customer goodwill, whisked the card away to be stamped and posted!

1964 AA 5-Star Service introduced, offering holidaymakers coverage worldwide. About 400,000 members and their families now use it each year.



The Caravaggio Photo by Charles S. Birmingham

IN BOURNEMOUTH

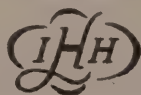
It's got to be the

NEW NORMANDIE

The hotel with Five-Star Quality & Service

UNDER NEW MANAGEMENT
NEW DESIGN AND DECOR THROUGHOUT
BY BEE KAY

Unwind at the exciting luxurious Hotel Normandie International. Situated in two acres of private grounds overlooking the sea. 85 delightful bedrooms with bathrooms, all with colour TV and Tea and Coffee making facilities plus several private suites. Sun trap lounges. Heated swimming pool, games room, dancing, superb dining (including vegetarian menu) and bar. New Health Hydro, Beauty Salon, Hairdressing Salon, Shop, Banqueting. Annual bookings welcome.



International (Hydro) Hotels

Write or telephone Reservations Manager for details.

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LANZ HOTELS

AA ★★ ★ RAC

BOURNEMOUTH'S 3 STAR GROUP

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Grove Road, East Cliff — 120 Bedrooms most with private bathroom. Heated swimming pool in season.

Anglo Swiss Hotel
0202 24794

Gervis Road, East Cliff — 70 Bedrooms most with private bathroom. Heated swimming pool in season.

Durlston Court Hotel
0202 291488

Gervis Road, East Cliff — 62 Bedrooms most with private bathrooms. Heated swimming pool in season.

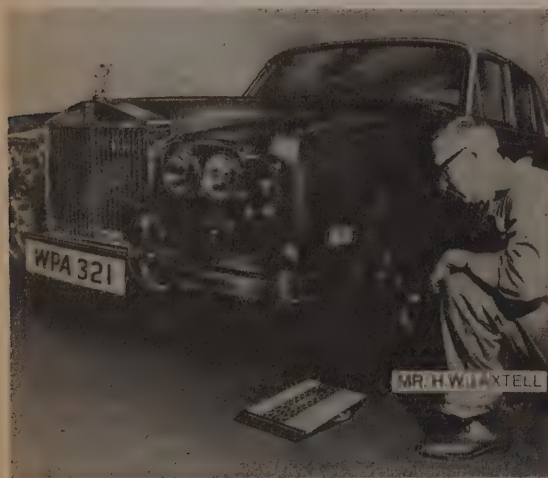
Hotel Cecil
0202 293336

Parsonage Road, Bath Hill — 27 Bedrooms all with private bathroom. Speciality restaurant and a la carte, open late.

All Hotels have fitted colour television and tea/coffee making facilities. Entertainment is available on seven nights a week during the season, with all the facilities of the four Hotels available to all of the guests.

LANZ SPORTS CENTRE. This centre consisting of 4 Squash Courts, indoor swimming pool, Saunas, Gymnasium, Billiard Room, Solarium, Recreation Area, Luxury Bar and Restaurant, is available for use of our Hotel Guests for the duration of their stay.

Please telephone or write to any of our Hotels for Brochures or Central Reservations 0202 294466.



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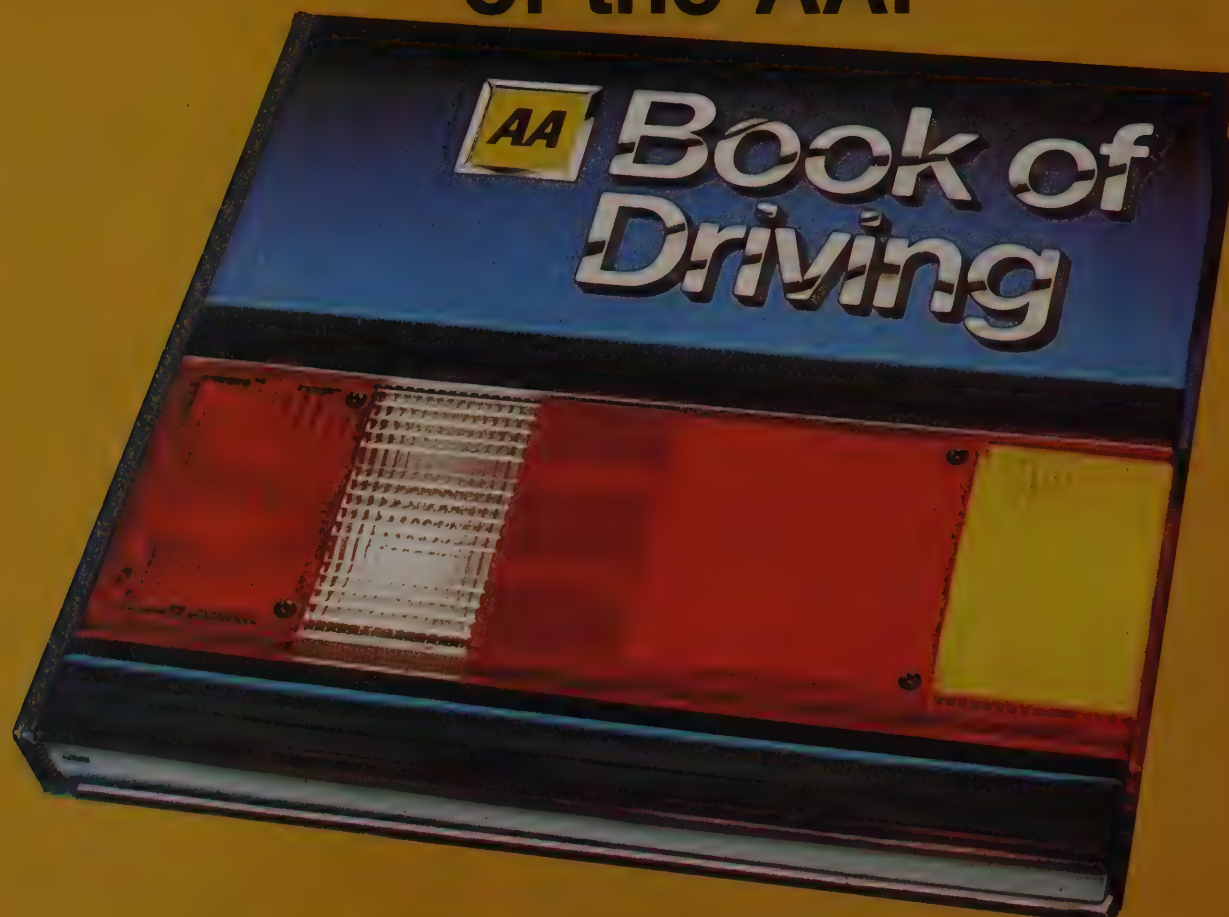


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Swedish movie speeded up

Saab 900 Turbo 3door

Price £10,350 On the road £10,485

year headstart in which to iron-out teething troubles; and the original 99's trouble was that its gearbox just didn't have enough teeth. Enter the 900 Series with a longer, plusher body. Our car-doctors decided it was time to investigate...

How it goes

Quite simply, a 'turbo' is a turbine compressor, driven windmill-fashion by the car's exhaust gases, that 'force-feeds' larger gulps of air into the combustion chambers; which means that it reaches high revs more quickly, all of which makes an engine *feel* bigger, more powerful. And the Saab's turbo senses the work that it's called on to do by measuring

the exhaust-gas velocity — the faster it exits, the faster it stuffs air into the cylinders.

By their nature, though, turbochargers work best at high engine speeds, contributing less at low revs. Despite Saab's claims to the contrary, this was a problem for its early Turbo, fitted with a four-speed gearbox: it was a model that thrilled the driver in the second half of its speed range, but felt doleful if asked to pull away from low speed in top.

Saab has tackled this hang-up by adding an extra cog to the gearbox and jiggling around with the intermediate gear ratios, and has injected a lot more sparkle lower down, particularly in fourth gear, which now returns 18.4mph

for every 1000rpm, compared to the earlier car's 21.3mph. Less mph per 1000 revs means that the engine has to work harder to travel at a given speed, but it also equals more 'guts' when flooring the accelerator.

The net result of all this is a massive 3sec slice off the 30-50mph fourth-gear time, now an impressive 8.2sec. But if you think that's good, just look at our 50-70mph time as the blower gets into its stride; and it keeps on pulling with unflagging zeal right through the 100mph barrier.

Of course, fifth gear is just as pedestrian at low rpm as its predecessor's fourth gear, but that is more excusable if you regard fifth simply as a long-legged over-drive. Use the gearbox freely, and you will see what exhilarating acceleration is all about, as the engine spins enthusiastically up

There's nothing new about turbos: makers have been using super- and turbochargers to beef-up sports and racing cars — and even lorries — for decades.

And there's little surprising about Saabs: true, in the hands of a Scandinavian rally driver, they can do all sorts of tricks, but their rugged, good-sense design has always been something of a sales-gimmick for rural doctors racing to midwinter births.

So, when Saab dropped a turbo into its rather-staid 99, two years ago, one could only wonder how many Dr Jekylls there could be.

What a difference an oil crisis can make! Now, everybody seems to be going turbo in an attempt to drag more bhp out of the same cc's. Audi's just turboed over the horizon, and there are more to follow.

Saab, however, has had a two-





to the 6000rpm limit, whereupon an ignition limiter pulls down the safety curtain.

A lot of cog-swapping to keep the power coming does, however, highlight the gear change's limitations. Ours felt light and reasonably precise when moving up through the gears, but it balked annoyingly when coming down, particularly from third to second — which you do a lot in this sort of car. The clutch is heavy but smooth, and can handle a 1-in-3 gradient from rest.

The big 'bay' windscreen, an excellent set of driving-seat settings, and good posture from the firm upholstery all ensure that any driver will feel at home. The tall may wish for more rearwards movement, but the way in which the notchless adjusters fix the seat exactly where you move it is ideal. There's cushion tilt and height variation, too, to make up for the fixed steering wheel. And that Swedish speciality, the heated front seat, feels lovely on a chilly morning.

We dislike the inset pedals, with room for the left foot only under the clutch, and the accelerator can be fouled when applying the brake.

Rearwards visibility is better nowadays, with the new, shorter head restraints — better, too, for rear passengers. The mirror image also is good, with splendid, power-operated mirrors on both front doors of the 5-door car; they seem a gimmick at first, but prove a real primary-safety feature in service. The screen wash/wipe — with intermittent setting — also operates a headlamp wash/wipe when the lights are on.

Although the instrument binacle is entirely restyled, it conveys the same information as in the old 99EMS, with a tachometer and a water-temperature gauge, as well as the speedo. Day-running lamps, Volvo-style, caused the usual 'helpful' flashing from other motorists. The facia

lighting stays on all the time, too, but you become aware of its green hue only as darkness falls.

With power steering, subtle revisions to suspension settings, and new ultra-low-profile tyres, the 900's cornering powers have been transformed; the 99's was somewhat pedestrian. The only notable loss is most of the front-tyre road 'feel': some think the steering is now too light. Otherwise, the quick response to the helm and the ultimate tendency at high speeds to run wide of one's chosen line is very laudable. Even in the wet, the tyres grip tenaciously, and the 900's determination not to be blown off motorway course by Scania trucks is reassuring, too.

How comfortable

The stiffer suspension and gas-filled dampers of the Turbo — and the 900EMS, too — are all very well for improving cornering capabilities, but the resultant ride just isn't £10,000-worth, not even for a sporty car. The crashing and jolting meted out over ridges and badly broken surfaces is simply unacceptable, especially when the inside starts to rattle in sympathy. On good roads, it's an entirely different story: there, one can enjoy the car's flounder-free progress.

The 900 sensibly incorporates the 99 Combi's hatchback configuration, to give adaptability as well as comfort, which is in no way compromised for rear passengers. Legroom is a good average, by the standards of the 2litre class, but we don't reckon it's any better than before, despite the fact that the car has been stretched to 8in longer than the Combi and 12½in longer than the 99 saloon.

Luggage room, however, is generous, even with the rear seat in use, and folding it forwards in conventional estate-car fashion produces a flat, 5½ft, carpeted load platform. There's a fairly

prominent sill to lift heavy items over, though, and the steeply raked tailgate doesn't favour long, tall objects. Unlike some hatchbacks, the load canopy cannot be folded out of the way, but it can be removed easily and left on the boot floor if need be.

We were most impressed with the luggage-area trim: Saab uses wood where others use plastic, and the floor is covered with the Scandinavian equivalent of plush Wilton carpet. The tailgate can be opened with or without a key, and there's a handle on its inner lip to save your hands getting dirty.

The heating and ventilation arrangements look more impressive on paper than they are in practice: an air-intake filter, which looks a godsend to hayfever sufferers or diesel-lorry-followers, works well for most of the time... until you switch the fan to full boost; then, the car seems filled with the accumulation of the last few days. We thought we'd caught fire when it first happened. This filter also makes the three-speed fan a constant necessity, otherwise ventilation is negligible. Heating is better, with a good spread of warmth at foot level, even in the direction of rear passengers; but the all-purpose, single vacuum-operated control doesn't satisfy all the permutations for which we look, such as simultaneous cold-air to screen/warm-air to feet. Things can feel stuffy at head level with the heater on.

Perhaps the 900's most impressive advance over the 99 model is in engine-noise suppression. True, the high gearing makes the 900 more fickle about accelerating from below 30mph in its leggy fifth gear, but above this the engine is so smooth and quiet that you really could mistake it for a six underbonnet. There is a bit of wind noise, but little else to disturb the hush — except, of course, on poorly surfaced roads. The turbocharger remains inaudible at all times.

In town, the power steering is a great boon, except that it provokes the engine to stall on full lock as you try to manoeuvre. Otherwise, the engine starts and poodles along gently with an ease that belies its potency. Reversing vision could be better, but it's comforting to know that the massive bumpers will accept a nudge without damage to themselves or anyone else. They're big enough to sit on and serve picnics!

How strong

Bred to withstand Scandinavian winters, Saabs have always qualified as consumer-very-durables. The 900 seems at least equal to the 99, if not better. Not only is there the same thick goo (filthy stuff!) to ward off underbelly



SAAB 900 TURBO 3door

Parts/repairs (inc VAT)
clutch £65.09 (fitting 1.7hr)
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headlamp unit £73.6 (0.25hr)
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laminated windscreen £73.03 (0.9hr)

oil filter £4.83 (0.2hr)
major service 10,000 miles (2.7hr av)

Insurance group 8/refer
Warranty 12 months/unlimited mileage

Standing costs per year/12,000 miles
Loss of value £921
Capital interest £536
New-cost inflation £871
Total standing costs=£2328 (19.4p per mile)

Running costs
Petrol (£1.27p gal) £575
Insurance (av) £410
Road tax, AA sub £72
Servicing/replacements £200
Total running costs=£1262 (10.5p per mile)
plus total standing costs gives —
Total cost of ownership £3590
(29.9p per mile)

HOW IT COMPARES

Saab 900 Turbo 3door

Audi 100 Avant GL5S

Renault 20TS

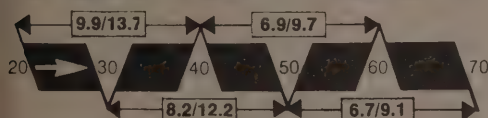
Rover 3500

Peugeot 505 STI



ACCELERATION Times in sec

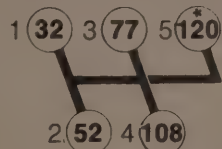
MPH	THROUGH GEARS	IN TOP GEAR	IN 4th GEAR
0-30	3.2		
30-40	1.8	6.7	4.8
30-50	3.5	11.8	7.9
30-60	6.3	16.0	11.1
30-70	9.1	19.7	14.5



Top-gear speed-range times (sec) — 4th/5th gear

TOP SPEEDS

max engine speed used 5800rpm;
max in top 5000rpm;
standing ¼ mile
17sec



*estimated

BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)
30lb at start; **25lb** in constant use; **30lb** in severe use
Watersplash immediate recovery

FUEL 4-star/97 octane min

Consumption — normal range		
hard driving, heavy traffic		20mpg
short journey in the suburbs		21½mpg
brisk, driving — 50mph cruising		26mpg
motorway — 70mph cruising		28mpg
gentle driving — rural roads		31mpg
Typical mpg overall		26½mpg
Realistic tank range	300 miles/11gal	
Consumption at steady speeds		
	4th	5th
30mph	38¼mpg	45mpg
56mph	29¼mpg	33¼mpg
70mph	24½mpg	28mpg
max mph	13mpg	15¼mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	Yes
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	Yes	doors: crashproof?	Yes
convenient?	Yes	childproof?	Yes
rear belts: fitted?	No	petrol: spillproof?	Yes
		brakes: failsafe?	Yes
		load sensitive?	No

PRICE (£) ON-ROAD	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
10,485	1985	26½	120*	9.1	19.7/14.5	100/50	15' 6½"	39½	39	3¼/34½
7752	2144	26¼	108	11.5	22.4	97/80	15' 0¾"	42½	39½	4¾ 35¼
6840	1995	29½	104	13.2	21.4	98/50	14' 10"	42¾	40¾	3¼/37½
9817	3528	24½	119	10.5	24.8/17.6	100/70	15' 5"	41	43	2¾/33¾
7579	1995	28	102	13.2	28.7/19.1	100/35	15' 0"	40½	40	3¼/34¾

*estimated

attack by salt and mud, but the basic design of the smoothly contoured wheelarches, six inbuilt mudflaps and the usual door sills set inboard of the doors are all drawing-board attempts to thwart the rust bug. It is all done impressively, with no serious 'misses' on our test car, apart from some unsightly welds around the door edge. The paint finish is remarkably good, too.

Actually, it is in mechanical and equipment specification that this 900 is full of interest to the technically minded. Saab seems to be leading where others are bound to follow in details such as vacuum-operated heater controls, new, long-life brake pads, and a facia that is wire-free and pre-assembled and tested before fitment. The 99's tyre-and-wheel specification varies with the model, but the five-door Turbo has the new Michelin TRX tyres with their own special alloy rims, while the three-door has Pirelli P6 tyres.

The underbonnet fuse and relay box is a splendid example of Saab engineering, and the electrics in general are obviously designed to withstand the elements as effectively as the body structure. Our only grouse is the cut-price spare wheel and tyre supplied — surely £10,000 should buy the same as is on the road, instead of an emergency-only standby?

How safe

We always found the Saab 99 rather more stable than even its Volvo rivals, and the failsafe attitude of front-wheel drive is expressed well in the new 900: if one does overdo things into a corner, easing off the accelerator pulls the wayward front end back into line with ease.

The brakes look impressive, with generous-sized discs all round — servo-assisted, of course — and Saab claims that the high metal content of the new outer pads will dramatically improve performance and life expectancy. Having track-tested and driven 1000 miles with them, our only criticism is that the initial response (in gentle check braking) is too fierce. This flattens out at high pressures, though, reducing the risk of rear-wheel skidding in panic stops — something that can happen because the one feature that is lacking is a load-sensitive rear valve. Otherwise, the system is reassuring.

We hope you'll notice just how well the 900 measures up to our safety check-list: there really is little to criticise concerning injury prevention. We are intrigued to see that the 900 has those under-facia shin guards, pioneered on the Rover 2000 many years ago, but its generous rear-seatbelt specifica-

tion (two inertia: one static) has been dropped on the 1980 cars.

Outside, the bonnet-hinging arrangements that prevent it penetrating the laminated windscreen, lamps that can be seen clearly from the side, and those massive bumpers that are actually quite light, all emphasise the safety theme that Saab has tackled so convincingly.

How much

Although the Saab 99 has been around long enough for us to say that it has about the lowest overall depreciation in the 2litre class, the five-door Turbo is a new and costly extension to the current range — more than half as much again as the cheapest 900; this is bound to make for much heavier depreciation.

The complicated Turbo is hardly the car for front-garden maintenance, although, in fairness, underbonnet access to ancillaries such as the alternator,

HOW GOOD

At-a-glance

DRIVE's verdict on the Saab 900 Turbo, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●●●●●

FUEL ECONOMY

●●●●●●●●○○

HANDLING/STEERING

●●●●●●●○○○

COMFORT/REFINEMENT

●●●●●●○○○○

INTERIOR/BOOT SPACE

●●●●●○○○○○

PASSENGER AIDS

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DRIVER AIDS

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ACCIDENT/INJURY SAFEGUARDS

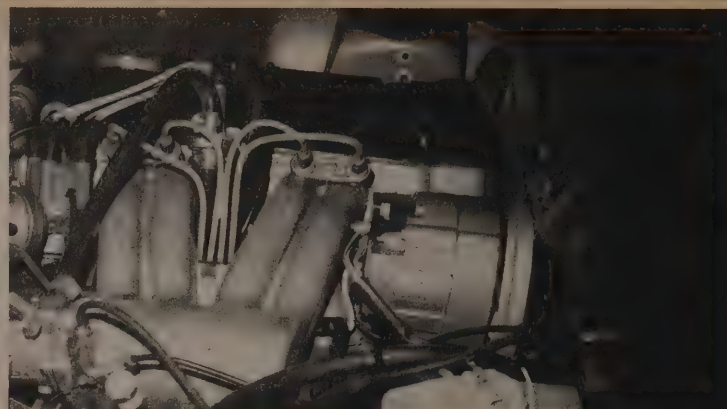
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RUST RESISTANCE

●●●●●●●●●●

RELIABILITY/EASE OF REPAIR

●●●●●○○○○○



oil filter and sparkplugs remains remarkably good, and electronic ignition simplifies servicing.

At 26½mpg overall, the Turbo's fuel consumption is 3mpg thirstier than the 99EMS that we tested three years back. Of course, the Turbo's top-end performance is significantly brisker, but even if one avoids exploiting its ultimate acceleration, its economy won't be too good: one snag with turbo-charging is that the engine's compression ratio has to be lowered, so spoiling its part-throttle efficiency — a problem that Saab is wrestling with as we go to press. The absence of a locking filler cap is a surprising omission on this class of car, but the modest tank capacity is helped by a sensible low-level warning lamp and easy filling right to within a few pints of brim-full.

Verdict

In an era of dwindling oil resources and governmental pressure to improve mpg, there isn't much to tempt a car maker into exotica, especially with the high interest rates on the huge capital that would have to be tied up in tooling for new engines. That's the attraction of bolting a turbo on to an existing power unit. But what's the attraction of this Saab?

Well, couple that neck-jerking acceleration to a built-to-last body-shell, a highly practical, all-purpose interior and some trend-setting subtleties in equipment, and you have a car that has a very

broad-based driver appeal.

Where Saab is to be congratulated, though, is in refining both the engine and the new car to such an extent that it cruises down the motorway like a six-cylinder limo.

If only it rode like one, too . . .

ENGINE

Type and size front-mounted, 4-ig-line, water-cooled; inclined at 45°; 90mm bore x 78mm stroke=1985cc; 5 main bearings with iron block/alloy head

Compression ratio 7.2:1

Valve gear overhead camshaft (shim adjustment), driven by duplex chain

Fuel system Bosch K Jetronic continuous flow injection system, Garrett AiResearch turbo compressor; 12gal fuel tank, low level warning lamp

Max power (DIN-net) 145bhp at 5000rpm

Max torque (DIN-net) 174lb ft at 3000rpm

TRANSMISSION

Clutch 8½in diaphragm spring, single dry plate, hydraulically operated; pedal load/travel: 28lb/6in

Gearbox 5-speed (all synchromesh) and reverse; ratios: first 3.32:1, second 2:1, third 1.34:1, fourth 0.97:1, top 0.78:1; and reverse 4.9:1

Final drive 3.89:1 to front wheels

Mph per 1000rpm 3dr model: 22.7mph in top gear; 18.4mph in fourth gear; 5dr model: 23.0mph in top gear; 18.5mph in fourth gear

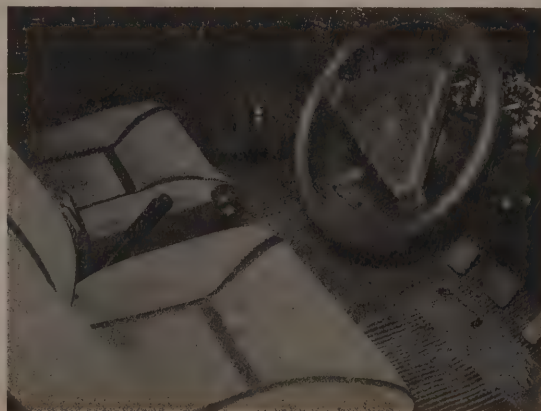
CHASSIS

Suspension front: independent double wishbones and coil springs; rear: coil-sprung beam (dead) axle, Panhard rod and longitudinal Watts linkages; dampers: gas-filled telescopic type

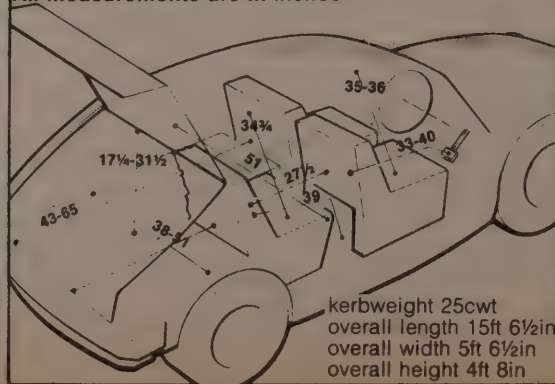
Steering power-assisted rack and pinion, 3¼ turns between full locks; turning circles average 34½ft between kerbs, with 60½ft in response to one turn of the wheel

Wheels 3dr model: 5½J alloy with 195/60R15 Pirelli P6 tyres; 5dr: 135TRX390 alloy with 180/65HR390 Michelin TRX radial-ply tyres

Brakes discs all around with vacuum servo and separate mechanical hand-brake acting on front wheels



All measurements are in inches



kerbweight 25cwt
overall length 15ft 6½in
overall width 5ft 6½in
overall height 4ft 8in

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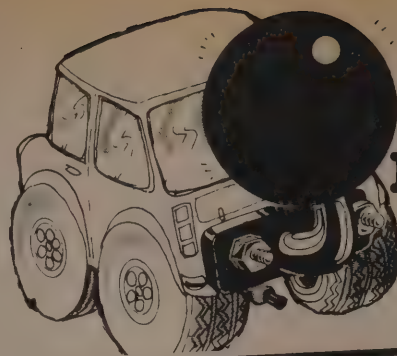
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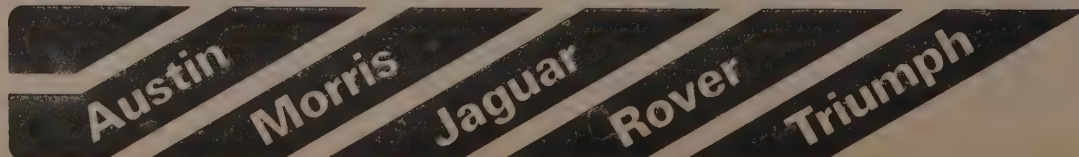
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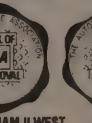
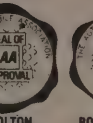
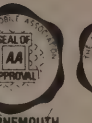





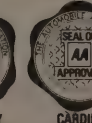




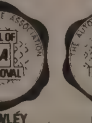
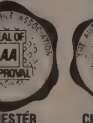
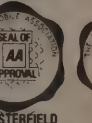





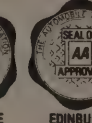





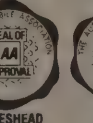
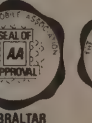




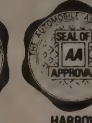





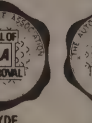
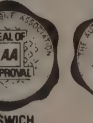
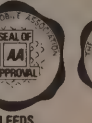











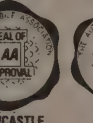
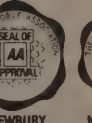











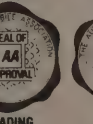
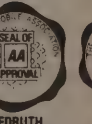










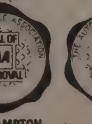
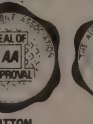
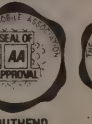











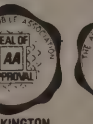
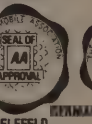




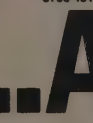
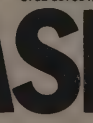



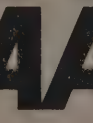
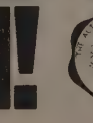

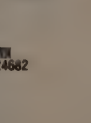


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Japanese shift worker

Remember your schooldays, when all a young blood desired was a lightweight racing-style motorcycle with two gear levers and 10 gears? It must have been a universal yen, for Mitsubishi has produced what sounds like *the* car for grown-up boy cycle-racers — the 10-speed Colt 1400GLX.

This company has launched its first two hatchbacks with no fewer than eight forward gears and two reverse ratios, achieved simply by adding one extra cog and a two-position Super-shift lever that's labelled 'Power' and 'Economy' — the answer to every ambitious car salesman's prayer.

It isn't exactly a new idea. One of our testers can remember the 1950s Standard Eight, which boasted a triple overdrive giving seven speeds. There were other even-earlier examples; but none

Colt 1400GLX 3 door

were as simple as the Colt's system — which keeps it cheap, too.

DRIVE grasped both levers and rowed along this Japanese eight in its cheapest, three-door form.

How it goes

Our test car needed a couple of seconds' churning before it showed signs of life, and hot-engine restarts had it running on only three cylinders. Once in business, it idled with Oriental serenity — even though our model's rpm setting was, initially, well below Colt's recommendation. A few cold-start stalls also taught us to wait before setting off.

Once under way, the Colt's twin gear shifts make amends with nimble performance in the

Power setting and relaxed high-speed cruising in the Economy slot. Not that you could learn this from comparing the through-the-gears acceleration figures of both modes (overpage). Ironically, we found the car a whisker quicker from standstill to 60mph when the four gears were left in the higher Economy ratio.

The explanation is that DRIVE saved milliseconds on the test track by missing out one gear change, for 62mph is attainable in second gear's Economy mode; using the Power setting would have required a further change up into third.

In general-purpose driving, however, the Colt moved less willingly in Economy than we would

have liked, and we ended up using this eight-speeder as a conventional five — moving through all four gears in the lower Power ratio, and only then clicking the Super-shift stick into Economy for quiet motorway cruising.

Used in this way, we admired the Super-shift's simple fore-and-aft movement, which avoids the complex dog-leg shift pattern of many a five-speed box. Every Colt driver will develop his own shift technique and permutation of lever positions. DRIVE's testers, for example, soon got used to moving both levers simultaneously from Economy fourth to Power third when an extra-powerful overtaking burst was called for.

It isn't easy to provide a front-wheel-driven, transverse-engined car with a pleasant gear change, but Colt can take a bow



for offering *two* that are as light and precise as the best.

All the pedals are well spaced, and you don't have to leave your left foot under the clutch — Japan also drives on the left, so there are no conversion problems here. However, in our 10,000-mile test car, the carpet beside the clutch was badly worn.

While Europe's drivers enjoy the precise direction of rack-and-pinion steering systems, Americans like theirs to be finger-light at all times, and DRIVE often criticises Japan for catering to this transatlantic taste. Now, Colt joins Honda as the only Orientals to please us with their steering. The Colt's is light, thanks to its low gearing of 3.4 turns from lock to lock, avoids the sloppiness of recirculating-ball systems, and provides the driver with some 'feel' of the front wheels' behaviour.

This, together with an all-independent suspension system that could have been borrowed from Volkswagen's Golf, makes for manners as demure as a Geisha's — if rather dull for the enthusiastic driver. Should speed increase while cornering, the Colt merely runs gradually wider of the chosen course, and if the driver does overdo things, all he has to do to restore equilibrium is raise his right foot. With experience, and the right gear/ratio selection, the Colt can be steered by its throttle alone.

Instruments are well positioned behind a single piece of non-reflecting glass, and beneath it is a row of warning lamps that are invisible until needed. Like the Honda Accord, the Colt warns when a door is not properly shut, but in bright sun some of the warning lights could be missed. Dials consist of a speedometer, tachometer, water-temperature gauge and fuel gauge, while a pair of central

HOW GOOD

At-a-glance

DRIVE's verdict on the Colt 1400GLX 3door, taking into consideration its rivals, its price and what kind of car it's *meant* to be

Out of 10

PERFORMANCE

●●●●●●●○○○

FUEL ECONOMY

●●●●●○○○○○

HANDLING/STEERING

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COMFORT/REFINEMENT

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INTERIOR/BOOT SPACE

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PASSENGER AIDS

●●●○○○○○○○

DRIVER AIDS

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ACCIDENT/INJURY SAFEGUARDS

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RUST RESISTANCE

●●●●●●●○○○

RELIABILITY/EASE OF REPAIR

●●●●●●●○○○

'traffic' lights signal orange for Power or green for Economy — for those drivers who cannot hear the difference. All instruments have rheostat-controlled lighting that varies from bright to non-existent.

Standard equipment includes the increasingly familiar LED clock, and a poor-quality radio with a facia-mounted speaker. The GLX has a Citroen-style finger-tip switch protruding from either side of the instrument cowl, one for the wipers — two speeds, a flick, but no intermittent — and the other for lights. The snag is that not everyone's fingers are long enough to reach them without taking their hands off the wheel... A single stalk on

the column copes with headlamp dip and flash, and indicators.

To the left of the facia are three fiddly, hard-to-find rocker switches that control the essential rear window wash-wipe and heater. They look and operate like an afterthought. The large area of tinted glass gives good visibility, and it is a treat to see one windscreen wiper sweep all but on to the driver's pillar.

How comfortable

Our first reaction to the driver's seat was that it promised little support. More than 300 miles a day behind the wheel proved us wrong, as one tester's sensitive back emerged unscathed, though he did wish for more lateral location while driving flat-out on the test track.

Passengers' comfort depends more on whether they relax in the front or cringe, round-shouldered, in the back. For although the 1400GLX is as long, bumper to bumper, as a Talbot Horizon, its interior isn't half as clever as a Ford Fiesta's. Headroom and kneeroom are limited, and it's a puzzle where all the space has gone.

The hatchback door can be opened by key or by pulling up a lever to the side of the driver's seat. Loading through it is less easy, as the sill is high and the boot space minute; pity the back seat can't be split, Capri style. We also noticed that the roof has no gutter, so how can Colt owners fix their roof-racks?

Japanese engines used to suffer from flat-spots, and our Colt did hesitate as its second choke opened, but so slightly that most owners wouldn't even notice it. The 1400cc engine may be refined, but that doesn't mean it's silent. When pressed it produces a noise you'll judge as either harsh or sporty, depending on your expectations. At 6000rpm — DRIVE's gear-change points for maximum performance — the engine sounds thrashy, but lower down the rev counter it is commendably quiet, even allowing normal conversation at 90mph on the test track's banking.

With independent suspension all round, the Colt 1400GLX is a better ride than other mounts from the same stable, and our car's rattling trim was more annoying than serious. The car coped well with noise-generating surfaces at the test track, though a series of gentle road humps showed us why they call it a Colt.

Heater controls look complex, and it pays to study the handbook first to sort out all the possibilities. You'll need a Japanese mind, however, as our handbook showed a reversed picture of the actual unit... ah-so. The three-speed fan was in constant use,



COLT 1400GLX 3door

Parts/repairs (inc VAT)

clutch £80.02 (fitting 2.9hr)
exhaust £54.27 (1hr)
headlamp unit £19.33 (0.4hr)
front bumper £103.50 (1hr)
laminated windscreen £50.24 (1.5hr)

oil filter and points £7.60 (0.9hr)
major service 12,000 miles (3.2hr)

Insurance group 4

Warranty 12 months/unlimited mileage

Standing costs per year/12,000 miles

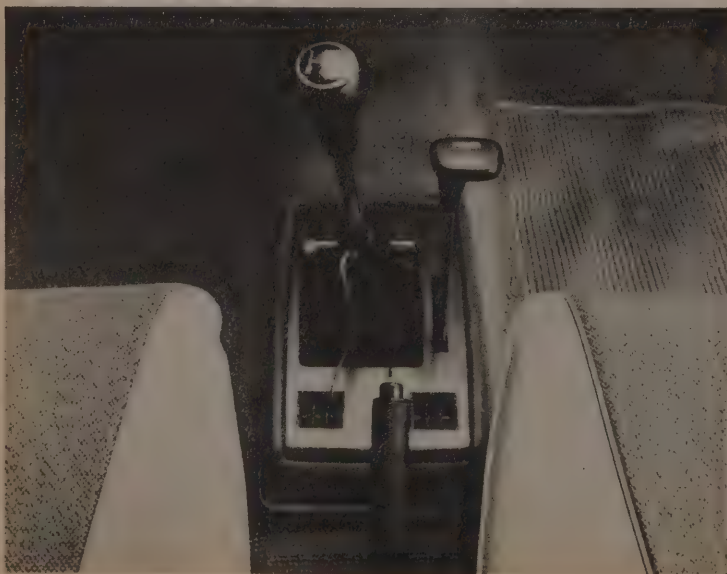
Loss of value £399
Capital interest £284
New-cost inflation £587
Total standing costs=£1270 (10.59ppm)

Running costs

Petrol (1.20gal) £423
Insurance (av) £134
Road tax, AA sub £72
Servicing/replacements £159
Total running costs=£788 (6.57p per m)
Total ownership £2058 (17.15p per m)

HOW IT COMPARES

Colt 1400GLX 3door
Mazda 323 3door
Fiat Strada 75CL 5door
Ford Fiesta 1.3S
Volkswagen Derby 1300GLS

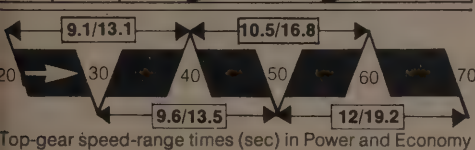




ACCELERATION

Times in sec

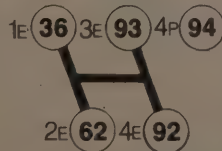
MPH	THRO' GEARS	TOP GEAR IN 'POWER'	TOP GEAR IN 'ECONOMY'
0-30	4	3.8	
30-40	2	2.4	4.6
30-50	5	5	9.5
30-60	8.9	8.8	14.7
30-70	13.9	15.1	21.3



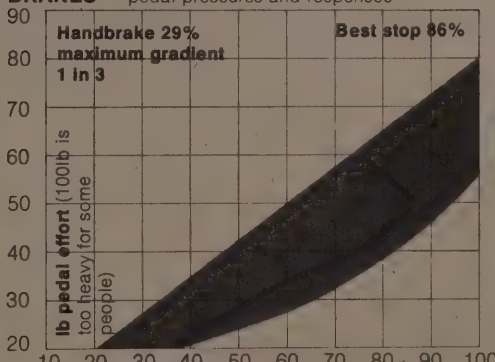
Top-gear speed-range times (sec) in Power and Economy

TOP SPEEDS

Max engine speed used 6000rpm; max in top 5600rpm; standing 1/4 mile 19.2sec



BRAKES



%efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)

50lb at start; 40lb in constant use; 52lb in severe use Watersplash 80lb at first, 5 stops to recover

FUEL

2-star/91 octane min

Consumption — normal range

short journey in the suburbs	27 3/4 mpg
hard driving, heavy traffic	29 3/4 mpg
brisk driving — 50mph cruising	33 1/4 mpg
motorway — 70mph cruising	35 1/2 mpg
gentle driving — rural roads	44 1/2 mpg

Typical overall 34mpg
Realistic tank range 246 miles/7 1/4 gal

Consumption at steady speeds

	'Power'	'Economy'
30mph	57 1/2 mpg	64 mpg
56mph	42 1/4 mpg	47 mpg
70mph	32 1/4 mpg	35 1/2 mpg
max mph	17 3/4 mpg	20 1/2 mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	hazard warning: fitted?	Yes
front seats: secure mounts?	Yes	interior: well padded?	No
head restraint?	Yes	w/screen: laminated?	Yes
front belts: effective?	Yes	doors: crashproof?	Yes
convenient?	Yes	childproof?	Yes
rear belts: fitted?	No	petrol: spillproof?	Yes
		brakes: failsafe?	Yes
		load sensitive?	No

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%g/lb)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
4049	1410	34	94	13.9(P)	21.3(P)	86/50	12' 5"	41 1/4	35	3 3/4/34
3655	1300	36 1/2	89	18.7	27.3	98/40	13'	39 3/4	37 3/4	4 1/2/29 1/2
4349	1498	36	97	13.6	20.7(4th)	100/60	12' 11"	39 3/4	38 1/4	3 1/2/34
4104	1298	38	93	14.6	28.2	97/50	11' 8 1/2"	40	39 3/4	3 1/2/31 1/2
4126	1272	36	94	14.0	21.6	86/50	12' 8"	40	35 1/4	3 3/4/30 1/2

P=Power mode, 4th=4th gear



and fortunately it is only noisy on its fastest setting.

The driver is served better than his passengers by ventilation outlets — getting two while the passenger has one — and their output is so prolific that it needs to be a scorching day before windows are opened. The rear windows hinge out to create an even quicker flow without any wind noise. However, it's difficult to work both systems at once for a cool head and warm toes, as the heater robs the ventilators.

How strong

DRIVE's test car had compressed the equivalent of a year's normal motoring into a few weeks before coming to us — and that's the way we like our cars. It was educational, for example, to see that, while the front end had suffered several stone chips, none had chiselled Mitsubishi's paintwork to bare metal, and there was no sign of rust.

Mitsubishi has a reputation in Japan for a higher standard of body building than its rivals, and in DRIVE's view it's justified. Floorpan and sill bases had a good coating of pvc oversprayed with wax. There was nothing to see on the sill sides, but our measuring equipment indicated there was some protection under the paint. Wheelarches were also given pvc protection, plus plastic shrouds and mudflaps.

No matter how far our all-seeing probe went into box-

section interiors, we couldn't see any rust protection — but we didn't see any rust, either, so our conclusion is that something in there was working well. Areas of the floorpan that had been masked at some stage had not been touched by the pvc compound, but the whole area had received a spray of wax. There were no mudtraps underneath the car, and brightwork on top was protected by plastic interlayers to prevent rust.

Underbonnet, the Colt looked as easy to work on as most other front-wheel-drive cars and well within the scope of DIY servicers. Weekly checks are aided by the now-commonplace translucent reservoirs for coolant, brake fluid, etc.

How safe

Like many Japanese cars, the Colt's brakes are a little on the light side for our taste. They are fine until a panic arises, when it is all-too-easy for a heavy-footed driver to apply too much pedal pressure for his own good — resulting in locked wheels and reduced stopping efficiency. The Colt's best stop was not one of the finest that we have achieved, but, that said, the Colt did prove tough enough to avoid brake-fade and wet-disc problems.

More-basic versions of the 1400GLX are available in Japan, where it is being marketed as the Mirage, but Mitsubishi is bringing into the UK only its best-of-



breed. Not surprising, therefore, to find its high level of equipment including twin door mirrors and laminated windscreen. Though we'd swap the lot for more luggage space . . .

How much

The Colt can save pennies by running happily on 2-star petrol, but this and the eight gear ratios failed to help its fuel economy greatly — it returned 34mpg overall in 1000 testing miles. Driven hard, or treated to short journeys, the Colt could be quite a thirsty animal, though DRIVE managed almost 50mpg on a gentle day-trip to the sea. At 35½mpg, the Colt's motorway performance makes it look good for Continental treks, and, as you'd expect, all our steady-speed consumption figures improved in Economy.

The tank proved easy to brim, but drivers are frightened to the pumps when only 7¼gal have been used up — leaving the Colt with a modest range of 246 miles.

Parts prices look reasonable, though Colt has a reputation for being more expensive than other Japanese producers, and a major service is needed only every 12,000 miles.

Insurance is a middle-of-the-road Group 4, and it's safe to say that, with Japan's voluntary export limits, Colt will not be able to import enough to meet demand, and that that might reflect favourably in the second-hand market.

Verdict

It would be easy to dismiss the 10-speed Colt as a sly marketing gimmick — but that would be missing the point. It is in fact a clever engineering dodge around the costs of ditching an old four-speed box and designing a new five.

It works, too. The Super-shift lever is worth having — especially when you realise that it is unlikely to raise the car's price by more than a few yen — and its simplicity is something to be admired.

We rate this Colt as a big Japanese stride towards the European concept of a small hatchback, and welcome Mitsubishi's recognition of the benefits of rack-and-pinion steering. But after such a promising start, it's disappointing to see the Colt falter at the last important fence in DRIVE's popularity stakes — that of interior space.

ENGINE

Type and size front-mounted, transverse 4-in-line, water-cooled; 74mm bore×82mm stroke=1410cc; 5 main bearings; iron block/alloy head

Compression ratio 9:1

Valve gear overhead camshaft actuating by rockers, belt drive

Fuel system single twin-Venturi down-draught Aisin carburettor, fed by mechanical pump from 9gal tank — no reserve

Max power (DIN-net) 70bhp at 5000rpm

Max torque (DIN-net) 78lb ft at 3500rpm

TRANSMISSION

Clutch 7¼in diaphragm spring, single dry plate, hydraulically operated; pedal load/travel: 30lb/6in

Gearbox 4-speed manual (all synchromesh), two ranges and reverse; ratios: (Economy/Power) first 3.727/4.226, second 1.831/2.365, third 1.136/1.467, fourth 0.855/1.105, reverse 3.181/4.109

Final drive helical spur gears, 3.470:1 to front wheels

Mph per 1000rpm 22.1 in Economy top, 17.1 in Power top

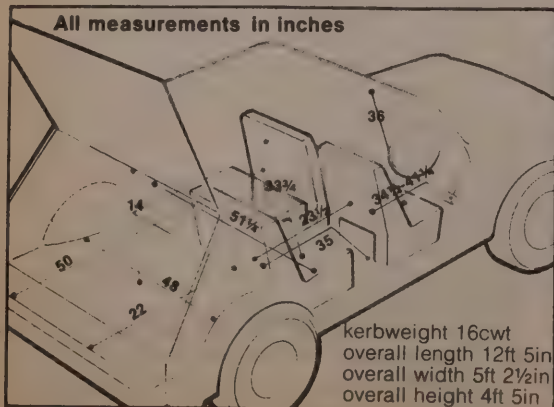
CHASSIS

Suspension — front: independent MacPherson damper/struts, lower transverse arms, anti-roll bar, coil springs; rear: independent with trailing arms and coil springs

Steering rack and pinion, 3¾ turns between full locks; turning circles average 34ft between kerbs, with 64½ft in response to one turn of the wheel

Wheels 4½J steel rims with 155SR13 steel-braced radial-ply tyres (Michelin XXZ on test car)

Brakes dual-line hydraulics; discs front, drums rear, with vacuum servo, line failure warning lamp, handbrake warning lamp



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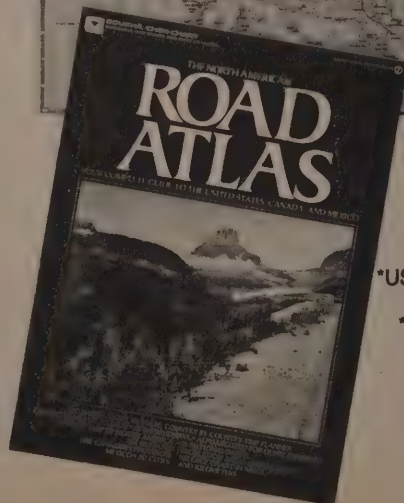
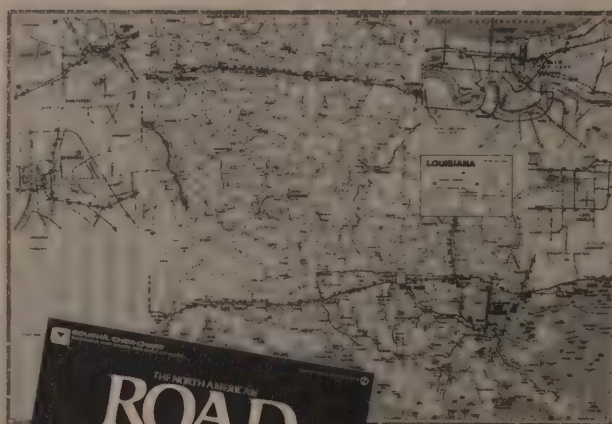
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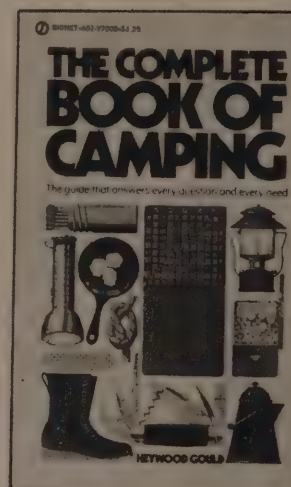
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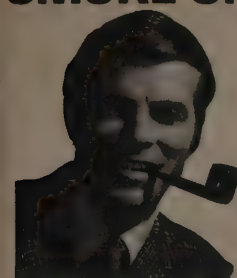
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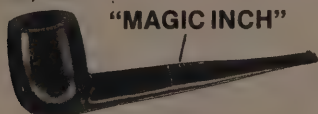
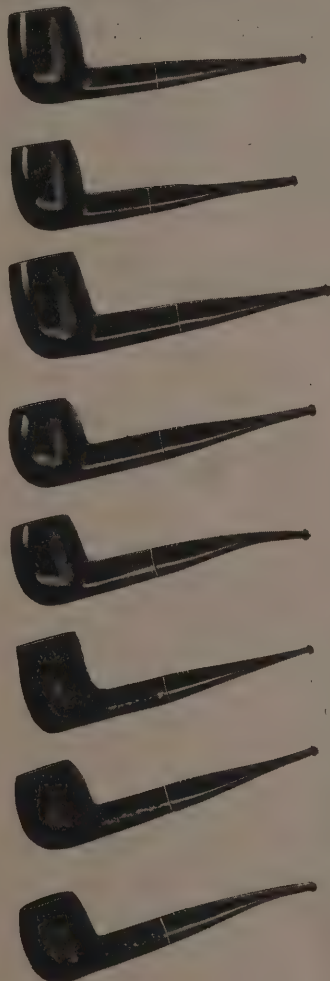
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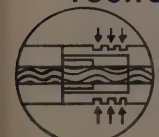
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DM1

On the right track

WITH GARAGE EQUIPMENT for car wheel alignment costing anything up to £1000, adjusting track-rods has never been a DIY job. Yet it's a job that's essential for the economy-minded motorist. Even slight misalignment can knock 10,000 miles off the life of a tyre, place increasing stress and strain on the suspension and steering components, and increase precious petrol consumption.

So you can imagine how interested we were to hear that a British firm — SPQR Engineering Ltd — has invented an inexpensive device which is claimed not only to enable amateur mechanics to check wheel alignment, but also to do a *better* job than a highly skilled mechanic with all

his complex trade equipment.

SPQR's Trakrite is so simple that it's difficult to believe that no one has ever thought of the idea before. All you have to do is place it before one of your front wheels and drive gently over it. If the wheel is out of alignment, its permanent state of skid will cause sideways movement in a movable plate underneath the wheel. The plastic plate turns

on nylon rollers, and its degree of movement is indicated by a pointer. To obtain perfect wheel alignment, you simply adjust the track rods until the pointer stays on zero.

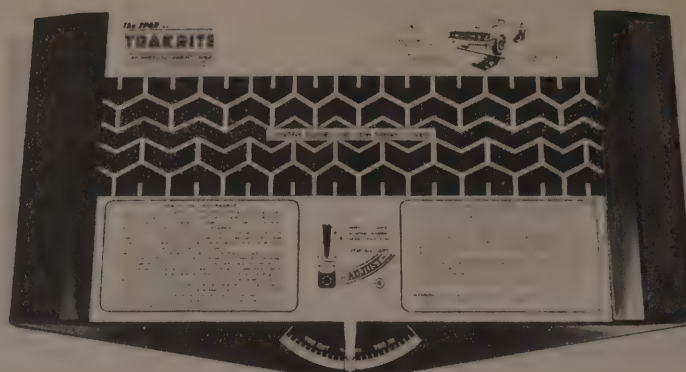
Trakrite's advantage over the more-expensive optical tracking equipment is that it takes into account the load on the tyre, which can significantly affect wheel alignment — and

that's something a garage's equipment cannot do at present.

DRIVE's tester used Trakrite to check three front-wheel-drive and three rear-wheel-drive cars, and found the results both satisfactory and repeatable. However, our expert stressed that the instrument would give incorrect results when steering misalignment had already caused uneven tyre wear.

Finding evenly worn tyres for your front wheels could prove both tiresome and time consuming, but this annoyance could be avoided by the Trakrite owner making regular checks.

A balance board — namely a piece of plywood of the same dimensions as the Trakrite — was supplied by the manufacturer to be placed in line with the gauge, ahead of the other front wheel. DRIVE was disappointed to learn that this equipment would not be supplied to the DIY buyer... but don't worry. Our tester soon found that the board was an unnecessary part of the kit, having 'no significant effect' on the



USED-CAR PRICE GUIDE 100 of today's most-popu

MAKE AND MODEL	Road Test Report No	Date	engine cc	mean top mph	acceleration 0-60 in sec	overall mpg	insurance group	MODEL YEAR							
								Average secondhand price guide							
								1979	1978	1977	1976	1975	1974	1973	1972
Alfa Romeo Alfased 1.3ti	D5/78	3/4 78	1286	98	12.5	34.5	5	—	2500	—	—	—	—	—	—
Audi 80L	389	6/76	1297	91	14.2	31.75	5	4060	3295*	2525	2030	1635	1265	945	—
100LS	314/RI 139	1975	1761	100	12.7	29.25	5	4480*	3565	2975*	2130	1785	1465	1190	945
Austin Morris Mini 850	340	5/74	848	73	26.1	41.0	1	2035	1745	1500	1285	1090	925	785	655
Mini Clubman saloon	410	1/77	1098	82	18.2	40.5	1/2	2485	2130	1835	1570*	1340	1135	960	805
Allegro 1300 Mk2 4-dr	377	2/76	1275	85	19.0	37	2	2795	2330	1985	1675	—	—	—	—
Allegro 1500 estate	RI 127M	1975	1485	90	16.6	34.25	3	3150	2625	2235	1875*	1565	—	—	—
Maxi 1750 Mk2	263	1/72	1748	90	14.6	28.75	3	3185	2595	2210	1865	1555	1290	1065	865
Princess 1800HL	397	8/76	1798	96	14.2	29.75	4	3540	3220*	2305	1885	1510	—	—	—
Princess 2200HL	RI 129N	1975	2227	105	12.7	26.5	4	3640	3320*	2330	1910	1510	—	—	—
Marina Mk1 1800 4-dr	295	1/73	1798	96	12.8	31.5	3	3015*	2505	2150	1815*	1525	1275	1050	865
MG Midget Mk3	205	2/70	1275	93	14.8	29.1	4	2875	2425	2055	1735	1465*	1240	1035	870*
MGB Mk3	243	4/71	1798	105	11.8	23.9	6	3815	3370	2825	2380	1985	1660	1415	1190
BMW 520i	327	12/73	1990	111	9.7	29.0	S/R	—	—	4755	3890	3145	2525	1985	—
Chrysler/Talbot Sunbeam 1.6S	D6/78	3/4 78	1598	95	13.9	33.5	3	3405	2905	—	—	—	—	—	—
Avenger 1.3 2-dr	337	4/74	1295	93	19.0	30.5	2	—	2090	1775	1410	1175	975*	785	—
Avenger 1.6GLS auto	339	5/74	1600	93	13.9	26.5	4	3230	2730	2315	1855	1495	1245	1010*	—
Alpine S	381	4/76	1442	97	14.3	32.0	5	3630	3070	2615	2200	—	—	—	—
Hunter GL 4-dr	234	1/71	1725	86.5	15.0	28.7	3	—	—	—	1705	1410	1155	935	745
Citroen 2CV6	RI 118	1975	602	66	37.2	44.0	1	1815	1465	1230	1035	880	—	—	—
Dyane 6	366	3/75	602	70	29.5	47.0	1	1940	1555	1300	1085	910	760	630	520
GS Club	384	5/76	1222	93	17.2	33.0	4	2950	2380	1960	1610	1315	1065	845	—
CX2000	416	5/77	1985	107	12.7	29.25	6/7	3915	3120	2575	2130	1785	—	—	—
Coit Lancer 1400GL 4-dr	371	11/76	1439	94	12.9	34.0	5	3090	2575	2150	1765	1440*	—	—	—
Datsun Cherry 100A 4-dr	284	8/72	988	83	17.7	41.25	3	—	—	—	1545	1310	1100	915	765
120Y coupe	336	3/74	1171	86	17.7	39.0	4	3055*	2400	2045	1725	1450	1200	—	—
Violet 140J	RI 132M	1975	1428	94	15.5	32.0	4	2990	2535	1990	1685	1410	1170	—	—
Bluebird 180B	316	8/73	1770	104	12.3	27.0	5	—	—	1875	1585	1330	1110	915	745
Fiat 126	334/RI 138	2/74	594	62	60.0	48.5	1	1845	1580	1355	1030	875	740	615	—
127 3-dr Special	RI 137M	1975	903	82	18.4	41.75	2	2640*	1965*	1810*	1415	1190*	—	—	—
128 4-dr	320	9/73	1116	86	15.5	34.0	3	—	1940	1655*	1405	1185	995	835	690
131 1600S	369	6/75	1585	94	13.6	32.0	5	3170	2925*	2290	2100*	1605	—	—	—
132 1800GLS	360	1/75	1756	102	12.0	25.0	6	—	—	2190*	1805	1480	1340*	945	—
Ford Fiesta 1000HC	417	4/77	957	83	18.4	41.0	1	2485	2165	1935	—	—	—	—	—
Escort 1100 Popular	RI 136M	1975	1097	77	23.6	35.0	1	2240	1915	1640	1400	1180	—	—	—
Escort 1300XL 4-dr	292	11/72	1297	88	16.0	31.0	2	3030	2595	2230	1895	1605*	1240	1050	890
Cortina MK3 1600XL 4-dr	323	10/73	1593	95	15.1	27.0	3	—	—	—	1905	1615	1370	1150	975
Cortina 2000E estate	347/RI 116	1974	1993	99	12.3	27.5	5	—	—	—	2300	1955	—	—	—
Cortina Mk4 1600	404	12/76	1593	89	15.3	27.0	3	3145	2675	2280	—	—	—	—	—
Capri Mk2 1600GT	342	6/74	1593	102	12.4	27.5	5	3890	3295	2775*	2350	1965	1625	—	—
Capri 3000 Ghia auto	RI 114	1974	2994	113	9.9	22.0	6/7	5375	4530	3800*	3170	2630	2160	—	—
Granada 3000GXL auto	282	6/72	2994	108	11.7	21.0	6	6835	5595	3490*	2800	1910*	1490	1115	770
Honda Civic 1200 3-dr	362	3/75	1169	86	14.7	34.75	4	2670	2280	2030	1655*	1400	1170	—	—
Accord auto	420	5/77	1600	89	14.7	32.0	5/6	4010	3420	2895	—	—	—	—	—
Jag/Rover/Triumph Jaguar XJ6 4.2	227	10/70	4235	117	10.0	16.75	6/7	11290*	7775	5325	4260	3345	2675*	1935	1635
Jaguar XJ12 (L) auto	305	4/73	5343	136	7.6	13.0	7	12380*	7925	6215	4380	3640*	2675	1870	—
Rover 2200SC	324	11/73	2205	104	12.2	24.0	4	—	—	3045	2525	2130	1760	—	—
Rover 3500 auto	330	2/74	3528	112	11.1	20.5	5	—	—	—	2975	2430	1985	1585	1265
Rover 3500SDI manl	428	10/77	3528	119	10.4	24.5	6	6190	5100	4185	3445	—	—	—	—
Range Rover	252	7/71	3528	101	13.2	18.0	5	10100	8815	7750	6860	5945	5000	4210	3515



results. Our tracking experiments were also unaffected by variables such as uneven tyre pressures and the car's speed across the gauge.

Tests on rear-wheel-drive cars proved that it did not make any difference to the readings whether the car crossed the Trakrite under power or free-wheeling. But, when our front-wheel-drive cars were tested, more consistent results were obtained when the car crossed the gauge under power.

With practically no moving parts to wear out, the Trakrite should have a long life. It can be dismantled simply without the need for tools, and cleaned with a damp cloth.

In all it's a useful tool, which will sell at about £17. It has now earned the AA's Seal of Approval, and is also an official Toyota service tool.

secondhand-car buys. Specifications compiled from our tests, the reference numbers of which are given.

MAKE AND MODEL	Road Test Report No	Date	engine cc	mean top mph	acceleration 0-60 in sec	overall mpg	insurance group	MODEL YEAR Average secondhand price guide							
								1979	1978	1977	1976	1975	1974	1973	1972
Triumph Toledo 4-dr (Dolomite)	345RI 150	1977	1296	83	19.8	33.0	2/3	3020	2540	2140	1785*	1400	1165	955	775
Triumph Dolomite 1850	288	9/72	1854	100	11.4	28.25	4	3690	3095	2600	2355*	1735	1390	1090	820
Triumph 2000 Mk2	219	6/70	1998	95	15.0	26.0	4	—	—	2625	2180	1885*	1510	1215	995
Triumph 2500TC	RI 112	1974	2458	101	11.5	27.0	5	—	—	2725	2230	1910*	1465	—	—
Triumph Spitfire 1500	376	2/76	1493	97	12.5	35.25	5	3220	2700	2280	1925	1620	—	—	—
Triumph Stag	273	3/72	2897	118	10.2	22.5	S/R	—	—	4930	4060	3320	2725	2180	1735
Triumph TR7	401	11/76	1998	108	10.2	28.75	6	4060	3320	2600	2155	—	—	—	—
Lada 1200	355	9/74	1198	91	15.0	33.25	3	1885	1585	1340	1120	925	755	—	—
Lancia Beta 2000	RI 171	1978	1995	107	11.2	26.5	6/7	3490	2825	2255	—	—	—	—	—
Mazda 1000 2-dr	343	6/74	985	78	20.0	33.5	3	—	—	1420	1200	1005	840	—	—
1300 hatchback	424/D4/78	7/7/78	1272	89	15.9	36.5	4	2650	2255	1925	—	—	—	—	—
Mercedes-Benz 280E auto	D/79	79	2746	120	9.4	21.0	7	11485	9905	8195*	4955	4135	3445	2825	2330
Opel Kadett S estate 3-dr	338	5/74	1196	84	16.7	32.0	4	2970	2515	2320*	1800	1500	—	—	—
Ascona 1.9SR	302	3/75	1897	96	12.3	25.5	6	3945	3635*	2805*	2340*	1765	1450	1165	—
Rekord 4-dr	287	8/72	1897	101	12.0	26.0	4	—	—	2230	1885*	1560	1290	1040	845*
Peugeot 104 4-dr	325	11/73	954	84	17.3	36.5	3	2545	2135	1785*	1500	1260	1060	885	—
304	386	5/76	1290	92	16.7	35.5	3	—	2525	2105*	1785	1465	1240	995	820
504GL	RI 140	1976	1971	99	13.7	27.75	5	4210*	3490	2875	2380	1960	1610	—	—
504 estate	275	4/72	1971	98.5	13.8	24.5	5	5225	4335	3590	2995	2500	2055	1710	1390
Reliant Robin	365	3/75	748	72	19.6	47.0	2	2320	2050	1785	1545*	1170	1040	—	—
Scimitar GTE	303	3/73	2994	118	9.1	21.25	7	6635*	5495	4505	3740	3070	2525	2030	1610
Renault 4TL	RI 121	1975	845	74	26.4	39.0	1	2330	1985	1665	1400	—	—	—	—
5TL	349	8/74	956	85	19.7	42.0	2	2650	2305	1935	1610	1365*	1140	945	—
5TS	370	11/75	1289	93	13.3	36.25	4	3070	2625	2205	1885	1585	—	—	—
6TL (1100)	364	3/75	1108	82	17.9	37.75	3	2525	2130	1785	1490	1240	1040*	845	695
12L	385	5/76	1289	82	18.1	34.5	3	2665	2205	1810*	1550	1300	1095	885	790
14TL	414	3/77	1218	89	14.8	36.5	4	2955	2480	2095	—	—	—	—	—
15GTL	D5/78	1978	1289	95	14.5	33.5	5	3345	2825	2330	1935	—	—	—	—
16TL	291	11/72	1565	93	15.1	29.5	4	3220	2675	2230	1885	1560	1290	1040	820
Rolls-Royce Silver Shadow	312	8/73	6750	115	10.0	14.25	S/R	37440	33965	29090	22800	21380	17450	16590	17450
Saab 99GLE auto	393	7/76	1985	102	13.6	28.5	6	—	—	3565	2975	—	—	—	—
99L 2litre	311	6/73	1985	100	12.6	27.0	5	4605	3815	3120	2600	2130	1735	1390	—
Simca 1100GLS 5-dr	298	1/73	1118	85	16.5	33.25	3	2275	1935*	1650*	1400	1175	985	815	670
Skoda S110LS 4-dr	285	1/73	1107	86	18.0	31.0	3	—	—	995	850	725	615	520	435
120LS Estelle	RI 169	1978	1174	86	17.9	33.0	3	1990	1685	1440	—	—	—	—	—
Toyota Corolla 30	399	9/76	1166	87	15.9	33.5	4	2715	2300	2120	1645	1370	—	—	—
Corona 2000 Mk2 2-dr	290	1/73	1968	100	12.1	25.0	6	—	—	2000	1675	1380	1120	895	710
Celica 2000ST coupé	423	8/77	1968	101	12.7	30.0	6/7	3765	3195	2725	2305	—	—	—	—
Vauxhall Chevette L 3-dr	396/RI 123	1975	1256	90	15.3	37.25	2	2930*	2495	2150	1920*	1555	—	—	—
Viva HCSL 4-dr	264	1/72	1256	84	17.8	34.0	2	—	—	—	1645*	1370	1130	930	750
Cavalier 1600L	382	4/76	1584	96	12.6	29.5	4	3410	2895	2460	2080	—	—	—	—
Victor 1800 4-dr	326	11/73	1759	93	15.7	25.0	3	—	2525	2130	1860*	1465	1165	920	695
Victor 2300SL estate	315	8/73	2279	98	12.4	26.0	4	—	2800	2355	2025*	1560	1240*	970	745
VW Polo L	408	1/77	895	81	19.0	39.5	3	2945	2515	2160	1850	—	—	—	—
Golf 1100 5-dr	411	2/77	1093	87	16.8	35.25	4	3360	2885	2480	2110	1795	—	—	—
1200 Beetle	353	8/74	1192	72	27.5	38.5	2	—	—	2485	2030*	1755	1510	1300	1110
Scirocco TS	411/RI 144	1976	1588	103	11.4	34.75	7	4830	4110	3490*	2925	2455	—	—	—
Volvo 343DL	415	3/77	1397	88	17.2	29.75	5	3715	3120	2625	—	—	—	—	—
245DL estate	368	5/75	2127	96	13.8	27.1	6	5895	5100	4505	3815	3245	—	—	—
264DL	395	8/76	2664	98	12.3	23.0	7	—	—	3370	2800	2405	—	—	—



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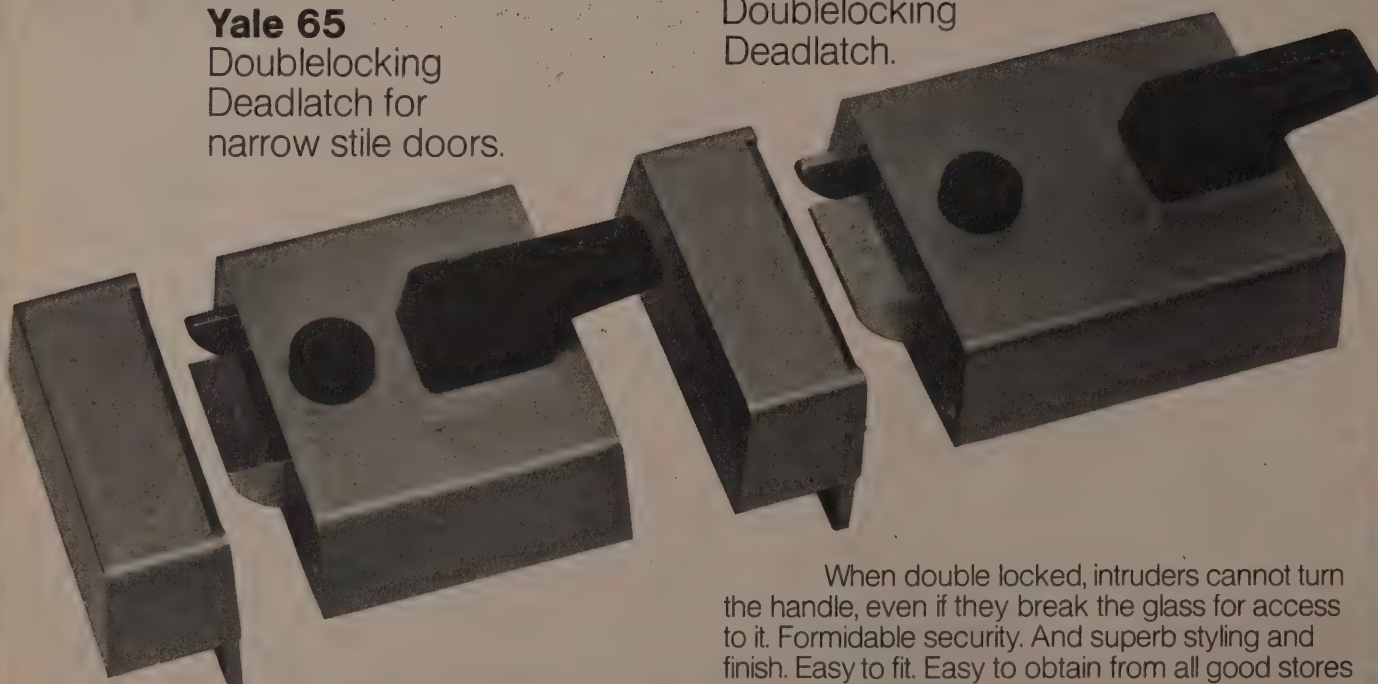
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Letters

Views to air? Tell DRIVE about your motoring and what it means to you. You can send letters for publication — unstamped — via DRIVE Directory, FREE-POST, AA, Basingstoke, Hampshire RG21 2EA

Wheels within wheels

Britain's legislation on odd-size spare wheels such as the Porsche 924 Turbo's space-saver spare (March-April) is out of step with the rest of the world — even though we have officially accepted the EEC regulations on the subject.

Our efforts to have the law changed have got as far as an agreed draft for Parliament's approval. This went back to the archives with the change of government, but the matter is not dead and talks with the Society of Motor Manufacturers and Traders are proceeding.

We do point out in the literature given to the owner that he has the option of using the space-saver tyre legally throughout the world, with the exception of Britain. In this country, we give him the facility

of a car-recovery service so that he can remain within the law without being inconvenienced. Michael Cotton
Porsche Cars Gt Britain Ltd
Reading, Berks

Protection business 1

DRIVE (January-February) reported a claim by Mr Robert Clay that he is spearheading a move to form a trade federation and draw up a code of practice for vehicle-rustproofing firms.

As one of the leaders in the UK rustproofing business, with a long record of high quality and good customer relations, I should like to point out that no such approach has been made by Mr Clay to this company. In fact, nearly three years ago we discussed with the AA's experts the possible merits of forming an association of rustproofers for the protection of the general public. At that time it was decided that possibly the best way of monitoring the rustproofing industry was by the association's Seal of Approval scheme.

I feel that the specification laid down by the AA is more than adequate to ensure that the customer receives fair treatment, and no useful pur-

1966 AA badge loses its wings and 'goes square'.

pose would be served by an association of rustproofers unless there was good intent behind it, with firm administration and financial backing.

More recently, we have discussed this matter in depth with our main competitors in the rustproofing field, Protectol and Dinitrol. We are of the opinion that an association could be useful when combined with the AA Seal of Approval programme, and are pursuing this possibility.

K D Tarry, Managing Director
Ziebart Vehicle Rustproofing
Worthing, Sussex

Protection business 2

As holders of the AA Seal of Approval, we applaud your interest in vehicle rustproofing (January-February).

It is true that rustproofing guarantees have, out of excessive promotion, lacked integrity and relevance. Experience and the technology of vehicle corrosion are, in the long-term, essential to effective guarantees. Without any liability to do so, this company has in the past few months met claims and transferred guarantees for those Endrust stations that chose to join Protectol.

We don't just talk about codes of practice etc to achieve promotional mileage; we actu-

1967 First issue of DRIVE magazine — quarterly, and free to nearly 4million AA members.

ally put into practice constructive acts. In the long run, the only way that improvement will be brought about is by the substantial participants in the market acting in a responsible and businesslike way.

For some time we have been in contact with networks who, with us, represent the majority of the market. We all recognise that, in the sensitive area of guarantees, there is a need for consensus on standards.

Bodyshield, as a network, is a comparative newcomer and the smallest of the five major networks. Its experience is only within the time scale of its guarantees. As a result, its input to a trade federation would not be experienced, and the spearheading role it claims is quite naive.

R T Booth
Joint Managing Director
Protectol (Rustproofing) Ltd
Barnard Castle, Co Durham

Robert Clay, managing director of Bodyshield replies:

Ziebart refers to discussions held three years ago with a view to forming a rustproofers' trade association for the benefit of

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Letter

the consumer. Protectol mentions preliminary exchanges with the same object in mind. But the plain truth of the matter is that the words, after all this time, haven't been followed up with action.

This is why I am trying to do something about the formation of a federation, as reported in *DRIVE*. In my opinion, a federation and strict code of practice are essential not only to protect the consumer but also the name of the reputable companies, whose image is being tarnished by unscrupulous and ill-equipped operators and helped none by constant knocking and distortion of the facts by those companies who can at least be relied on to perform the job to an accepted standard.

1967 Several insurance companies fail, leaving thousands of motorists without cover. AA combines with a Lloyd's broker to form AA Insurance Services.

The sooner such an organisation is established, the better for all concerned. To date, I have put out feelers on the issue to two major rustproofing firms but, frankly, it appears that some companies are still shuffling their feet instead of getting round a conference table and doing something definite to achieve Protectol's declared philosophy. Let us all hope that a trade federation can now be formed.

Les Sims, manager of AA Technical Services, writes:

It is now 10 years since the AA drafted a specification of minimum requirements for rustproofing processors who applied for the AA's Seal of Approval. To date, three firms - Ziebart, Protectol and Bodyshield - have been given this award. Two other rustproofing companies are being assessed by the AA, but the Seal of Approval is not given lightly, and those firms that have qualified have gone to great lengths to meet our requirements.

In my opinion, the AA's specification could form the basis of a standard for acceptance into an association of rustproofers, and I should welcome the day when the reputable firms get their heads together and do something constructive about it.

Non-protection business

Four years ago I bought a new car and was persuaded to have it rustproofed by a well-known company. Imagine my shock when, after inspecting the underside, the chief fitter at my bus depot reported that its

underbody protection was practically non-existent.

The showroom, 12 miles away, was sympathetic but said that, as the work had been contracted-out, the car would have to be returned to the treatment centre. This meant that I would have to find my own way back to work, and then another journey to collect the car. In the end, the garage agreed to loan me a vehicle.

The crowning irony was that when I got my car home, I discovered a 3in paint scratch across the bonnet, for which the garage denied responsibility. As your tester, Peter Denayer, writes: 'Anti-rust treatments may sound fine on paper, but it is still unusual to find total wax coverage in box sections or sills.'

My more-recent cars have not been rustproofed.

Bill Harratt
Congleton, Cheshire

Time travel

There was a time when a provisional-licence holder could expect to be examined within six weeks of applying. But the norm now is a wait of several months - especially frustrating to learners whose employers expect them to obtain a full licence as soon as possible - and even more so if they fail the test first time round.

Couldn't the Minister of Transport decree that those who fail be given priority for a second or third bite at the cherry, if they can prove that a full licence is essential for their work?

Noel Lewis
Llandybie, Dyfed

Streaking flashers

There's one thing even more annoying than motorists who hog the centre lane on motorways (*Letters*, November-December), and that is drivers who flash you to pull over when you're in the middle of overtaking several vehicles. Even though you're doing the 70mph maximum, they expect you to steer into the gap between the 50-60mph cars you're passing so that they can get by.

A Lindsay
Newport-on-Tay, Fife

Six of the best

A year ago, *DRIVE*'s enlightened and witty test report on the Citroen Dyane 6 swayed me into purchasing one, and I must say that I've been delighted with it.

Your article was far superior to the Dyane 6 report in *Which?*, as the Consumers Association completely missed the fun ele-

1968 AA Garage Plan invites garage-owners to apply for 'spanner' grading.

ment that you rightly captured. Which? also failed to appreciate the fact that such a car takes time to win a driver's affection.

All I can say is that, after 18,000 miles, I am glad I persevered. I am now totally hooked — just as your tester predicted. Indeed, it would appear that my model has proved a better example than the Dyane you tried!

I've had no starting problems, even in sub-zero temperatures, no low-speed vibration, no undue noise, and no problems starting off on a 1-in-3 hill. All this and a starting handle, too!

I use the car professionally as well as socially and, all things considered, I reckon that I'm laughing all the way to the bank. I would certainly get another — if I could ever wear this one out. Many thanks, DRIVE, for guiding me to a new way of life.

J L Prior
Paignton, Devon

Limited responsibility

I really must take issue with Robin Gillhespy's view that, if you drive a company car, it doesn't matter how much petrol you use (January-February). I use a business car and, like my colleagues, always endeavour to return a good mpg figure each month.

All companies have, or

1971 Camping and caravaning boom, and, after four years' preparation, AA pennant-rating system launched. Today, about 930 campsites have qualified for one to five pennants.

should have, a profit plan setting the level of business needed to obtain that profit for at least the year ahead. This way, sales targets are directly related to the costs of the sales force, which can eat away its profits.

By being constantly alert to fuel economy, a driver is also more likely to keep within the speed limits. In any case, we all have a responsibility in this day and age to contain our petrol consumption.

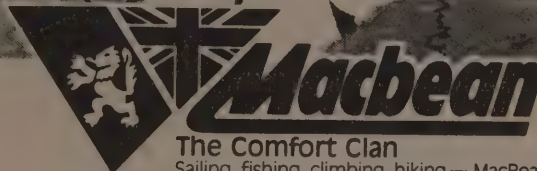
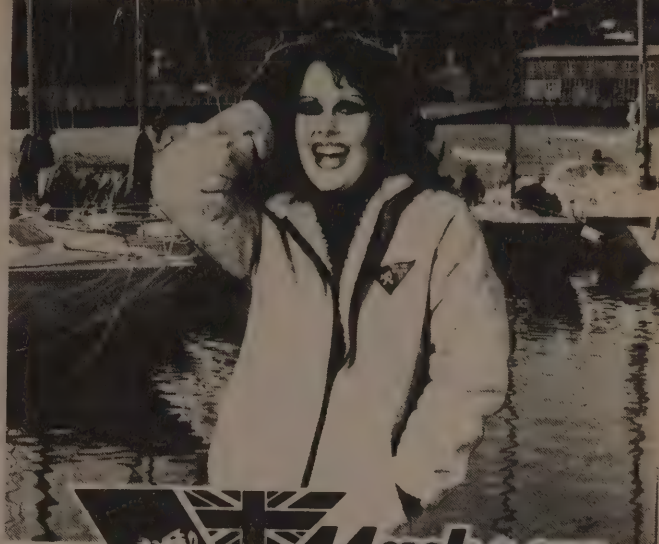
D W Vivian
Wallington, Surrey

Irregular behaviour

Of course, Mrs Sarel (Letters, January-February) is entitled to be pleased that her regular patronage of her local garage is rewarded by being assured of petrol in times of shortage. Personally, I keep a blacklist of filling stations that discriminate, and will never give them my custom under any circumstances, no matter how dire.

T C Chappel
Wistaston, Cheshire

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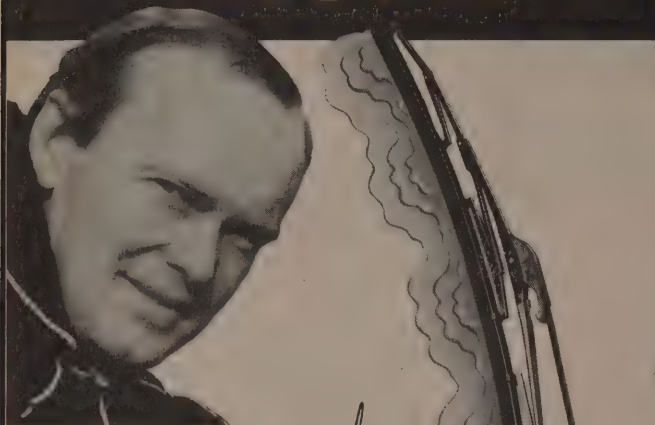
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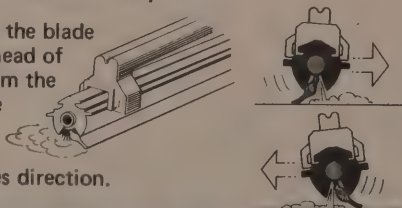
Bjorn Waldegaard

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Clinic

Any problems? Whether they are technical, insurance or legal, DRIVE's experts can help. Write to: Clinic, AA, Fanum House, Basingstoke, Hampshire RG21 2EA

Warranting attention?

Three years ago, I bought a new Peugeot 504 and had it rust-proofed before delivery, but I have never taken the car back for checking and re-treatment.

Would it be a good idea for me to re-treat the car myself with a generous dose of old engine oil thinned with paraffin? I'm sure this mixture kept my 1937 Rover rust-free. — R A WILSON, GLASGOW

While your mixture might work to some extent on unprotected metal, we certainly wouldn't advise you to spray it on to rust-proofed areas, and especially not into closed box sections. It is quite likely that the different mixtures would be incompatible, and that you might find your sealant turning to fluid.

There may be a case here for swallowing your pride, returning the car to the original rust-proofing firm and asking it to inspect the treatment. It should have all the right equipment, such as 'magic eye' Endoscopes, to do a thorough job. If necessary, it can then give the car any additional treatment (which, no doubt, you will have to pay for) should any deterioration in the original treatment be discovered.

Short-travel suspension

I am going abroad for six months, and am leaving my car in the UK. Could you please tell me what to do about insurance cover? Should I cancel? — E DENNIS, SAFFRON WALDEN
It's possible for you to suspend your full policy on a temporary basis, or your insurance company can reduce cover to fire and theft risks only.

Putting it to the test

If its MoT certificate has expired, am I allowed to drive my car before its next appointment with a garage for a test? — K ROBERTS, SALE
No. The only time that you can legally drive a car on a public road with an expired MoT certificate is when you are taking it (by the shortest sensible route)

1972 Britain's first independent vehicle-test centre set up by AA, at West Bromwich, W Midlands. More than 1500 vehicles now inspected here annually — 16,890 to date.

to or from the test, or to a garage appointed for the necessary repairs.

Vetting shop

In view of the number of things that DRIVE found to be wrong on new cars in the January-February issue's LTTC and the fact that there were similar faults on each model, I'm worried that there will be a string of problems with my next new car before it even takes to the road. Does the AA operate an inspection service for prospective owners of new cars? — B LAW, CHELMSFORD

AA engineers will conduct vehicle inspections for members with any lawful reason for one.

1972 AA moves into travel-agency business with AA Travel Services. Now, 45 agencies throughout the UK book holidays for 500,000 every year.

Mostly, the inspections are on secondhand cars, prior to purchase; but it's not unusual for motorists to ask the AA to vet new cars after delivery, to check their condition as the end of their warranty period approaches, and to pronounce on the quality of repair work.

We suggest that you visit your local AA shop (it's in Moulsham Street), and ask the desk staff there to tell you all about AA engineer inspections — including the scale of charges for the service.

The meaning of life

Sealed-for-life components annoy me. At one time, when a dynamo broke down, you simply spent a bob or two on new brushes and were back in business. Now, with an alternator, you have to spend £30-£40 for a complete new unit. It's the same with headlamps — for a few pence you could fit a new bulb; now it means forking out £3-£5 for a sealed-beam unit. Is this because manufacturers make fatter profits with sealed units? — P NEIGHBOUR, HARROW

A lot of drivers are suspicious about this sort of thing, but there are sensible reasons for fitting new units. As far as an alternator is concerned, you don't always have to buy a completely new or exchange unit. Alternator brushes can be renewed fairly quickly and simply by a vehicle electrician. The snag is that few garages employ such specialists; they rely on sub-contractors, so the actual cause of the alternator failure is often not diagnosed and a replacement is fitted — usually at considerable cost to the owner.

Yes, it's true that you may have to pay a lot for a new

continued on page 109

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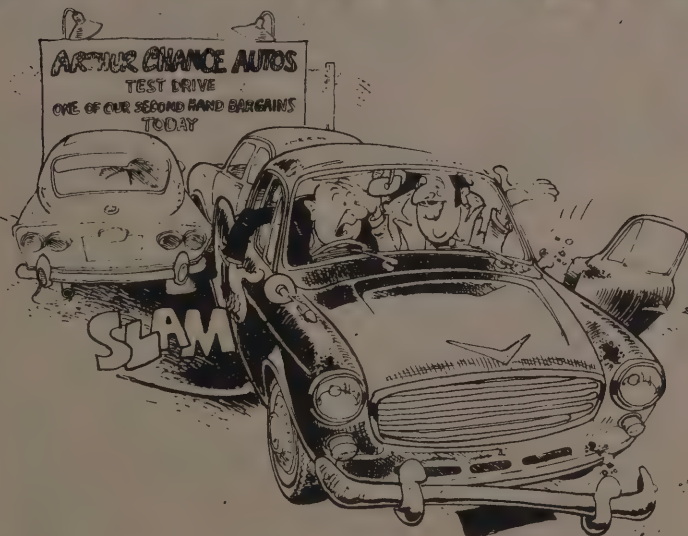


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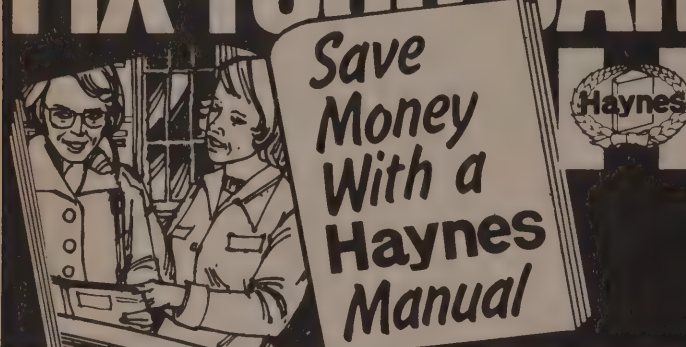
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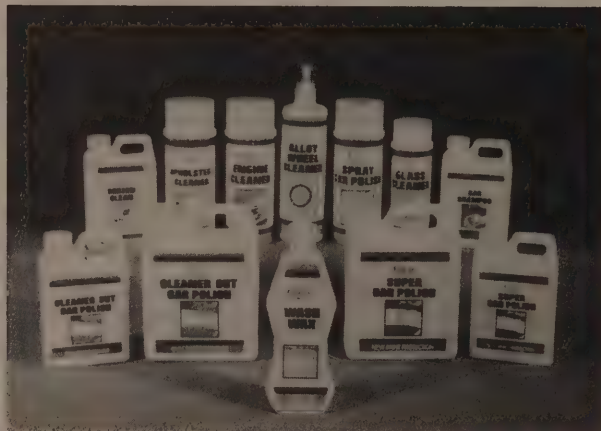
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Waxoyl continued from page 106
sealed-beam unit, but at least consistent light output is assured. Where separate bulbs are fitted, it is not uncommon for damp to corrode reflectors, considerably reducing the light's intensity — obviously a potential danger. Sealed-beam units, though more expensive to replace, have a reasonably long life, and their light output doesn't deteriorate ... until it goes out altogether!

Customising a van
Being both a keen camper and a DIY enthusiast, I am considering buying a new-ish van to convert into a motor-caravan. The trouble is that I shall have to pay tax on the converted vehicle. Can you tell me how much I would have to pay? — M LANE, CHICHESTER

Anyone carrying out conversion work on a commercial vehicle to make it more suitable for carrying passengers is liable to pay car tax. Adding side windows or extra seats to a van, or

converting it into a motor-caravan, could mean that you will have to pay car tax at 10% of the agreed wholesale value.

When the van is converted you should notify HM Customs and Excise, who will assess its liability for extra tax. Last year, about 400 vehicle conversions were notified to Customs each month, and about half of these were found to have car-tax liability. The average amount of tax due on each liable vehicle was just over £100.

You can get full details of conversion work that attracts car tax by asking for Customs Notice 672 at a local Customs and Excise office.

Mis-leading

I read with some apprehension your reply in Clinic (January-February) to a question about battery charging, in which you stated that, if the car is fitted with an alternator, the battery should be disconnected during the charging process. For years, I have used a charger without taking this precaution and no damage has occurred. Would you please explain your comment? — J WALKER, DARLEY DALE
When alternators were in their infancy they were more delicate than they are today. Consequently, they were unreliable and failed without much provo-

1975 GPO charges escalate — DRIVE costs twice as much to post as to print, so magazine goes commercial: six issues a year from newsagents or by subscription.

cation. To reduce the chance of damage, the owner was advised not to connect a charger to a battery that was connected to the car; it was thought that current surges from the mains supply could damage alternator components.

Alternators made within the last 10 years or so have more rugged electrics, and recent types will withstand charging with the battery leads connected, but it's best for owners of older cars to play safe by disconnecting.

Shake Allegro

The steering wheel of my 1974 Allegro 1500 Special vibrates at 65-70mph. The car has done 45,000 miles, and only two weeks ago I had two new front tyres fitted by my usual BL dealer. Can you tell me if the vibration is caused by some defect in the car? — W G STANTON, BUCKHURST HILL
Your problem sounds very much like out-of-balance wheels. If you didn't experience the vibration immediately after having the tyres fitted, one of

the wheel-balancing weights has probably dropped off a rim. Or it might be that the wheels were not balanced properly after the new tyres were fitted, and two weeks passed before you drove at 65mph.

Allegros are rather sensitive to wheel imbalance. The first thing to do is to have all four wheels carefully balanced. After this, mark one of the stud holes on each wheel, and its corresponding stud, with a dab of paint to ensure correct refitting when a wheel's changed.

1975 The coming of Super-cover. BL and AA get together, so that anyone buying a BL car gets a year's free membership.

1978 AA Motorsure offers two-year extended warranty schemes for new and used cars.

1978 New, big-size DRIVE hits the bookstalls. At same time, TRAIL is launched for ever-increasing camping, caravaning and great-outdoor public.

1979 AA opens its own holiday site — Lochanully Lodges, near Carrbridge in Scottish Highlands. By the end of 1979, 4000 people have been to stay in the self-catering log cabins.

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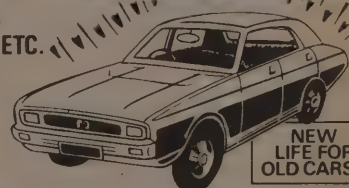
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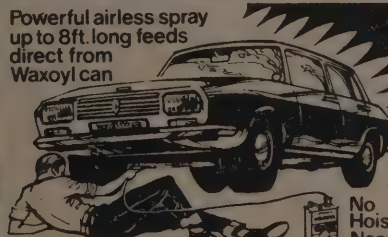
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French is spoken there, which for many adds to its charm, but as it is a tourist region visitors from all countries can make themselves understood quite easily. The welcome is friendly, as is only to be expected in a region of vineyards with a Latin tradition.

Once there, excellent roads and comfortable trains bring within easy reach all the places that a tourist might want to visit — and there is no lack of them. The choice is great, with "à la carte" holidays available to suit everyone's needs. The region includes the chain of the Alps — with such famous resorts as Villars, Leysin, Les Diablerets, Châteaufort, Oex and Les Mosses — as well as the Jura range with Ste. Croix-Les-Rasses, the Vallée de Joux and St. Cergue. It also boasts several lakes, the biggest of which is the Lake of Geneva with the international metropolis of Geneva and towns like Nyon, Rolle, Morges, Lausanne, Vevey, and Montreux on its shores,

followed by the lake of Neuchâtel with Yverdon-les-Bains at its southern end. There is lovely countryside too, between the Alps and the Jura, with Moudon, Payerne and Avenches nestling in the valley of the Broye.

But, in addition, many other parts of Switzerland, France and Italy are within easy reach of the Lake of Geneva Region. Some of the most popular excursions include Berne, the capital of Switzerland; Zermatt, at the foot of the Matterhorn; Gruyères, the home of the genuine cheese of that name; Chamonix and Mont Blanc in France; and the valley of Aosta in Italy. Even the longest excursion is only two hours by car or train.

The Lake of Geneva Region is a privileged holiday district. It is in fact one of the loveliest parts of Switzerland, which is well worth a visit and where the foreign visitor can enjoy himself . . . and feel really at home.

3 Nights from £20: (S.Fr.69.-) is one of the hotel arrangements offered by the tourist offices of the Lake of Geneva Region, comprising accommodation in twin-bedded rooms, breakfast, taxes and service charges included. This basic offer is completed by a whole range of attractive and inexpensive package arrangements.

The Legendary Watch at the Cathedral

Lausanne is certainly one of the last remaining towns in the world to continue the time-honoured medieval tradition of the Watch, who cries out the hours during the night. However, the bells of the impressive Gothic cathedral

are no longer rung during the night, the Watch taking over. In the calm of the night, his voice rings out far and wide over the town and many people wait at the foot of the cathedral to listen to the legendary Watch.

Fribourg-Neuchâtel Region

The canton of Fribourg contains many historic towns, including its capital, Fribourg, and the charming cities of Morat, on the shore of the lake of the same name, Estavayer-le-Lac, on the shore of the lake of Neuchâtel, and Romont, Bulle and Gruyères in the Fore-Alps. It is also renowned for the lovely, still-picturesque regions of Charmey, Moléson and the "Lac Noir" (Black Lake).

Neuchâtel is a canton of mountains — with the Jura range; and water — with the lakes of Neuchâtel and Bienne. La Chaux-de-Fonds, Switzerland's watchmaking capital, and Le Locle, the city of precision engineering, are surrounded by large woods and pastures, while Neuchâtel, an historic town for studying and holidays, is ideally situated on the shores of the lake that bears its name.

Information

- Swiss National Tourist Office, Swiss Centre, 1 New Coventry Street, Tel. 01-734 19 21 - TX 21295 Swisturist ldn. P.O. Box 10, Wardour Street, London W1V 4BJ.

- Office du tourisme du Canton de Vaud, avenue de la Gare 10, CH-1002 Lausanne, tel. 01041/21/22 77 82, TX 24390.

- Office du tourisme de Genève, rue de la Tour de l'île 1, CH-1204 Genève, tel. 01041/22/28 72 33, TX 22 795.

- Office neuchâtelois du tourisme, rue du Trésor 9, CH-2000 Neuchâtel, tel. 01041/38/25 17 89.

- Union fribourgeoise du tourisme, route Neuve 6, CH-1700 Fribourg, tel. 01041/37/23 33 63, TX 36499.

Booking (Through your travel agency or the local tourist office).

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CH-1260 Nyon
CH-1180 Rolle
CH-1110 Morges
CH-1006 Lausanne
CH-1605 Chexbres
CH-1800 Vevey
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The Broye

CH-1530 Payerne

Nord vaudois

CH-1400 Yverdon-les-Bains
CH-1450 Ste-Croix-les-Rasses

The Jura

CH-1347 Vallée de Joux/Le Sentier
CH-1264 St-Cergue

The Alps

CH-1837 Châteaufort/Oex
CH-1865 Les Diablerets
CH-1854 Leysin
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Fribourg-Neuchâtel Region

CH-1700 Fribourg
CH-3280 Morat
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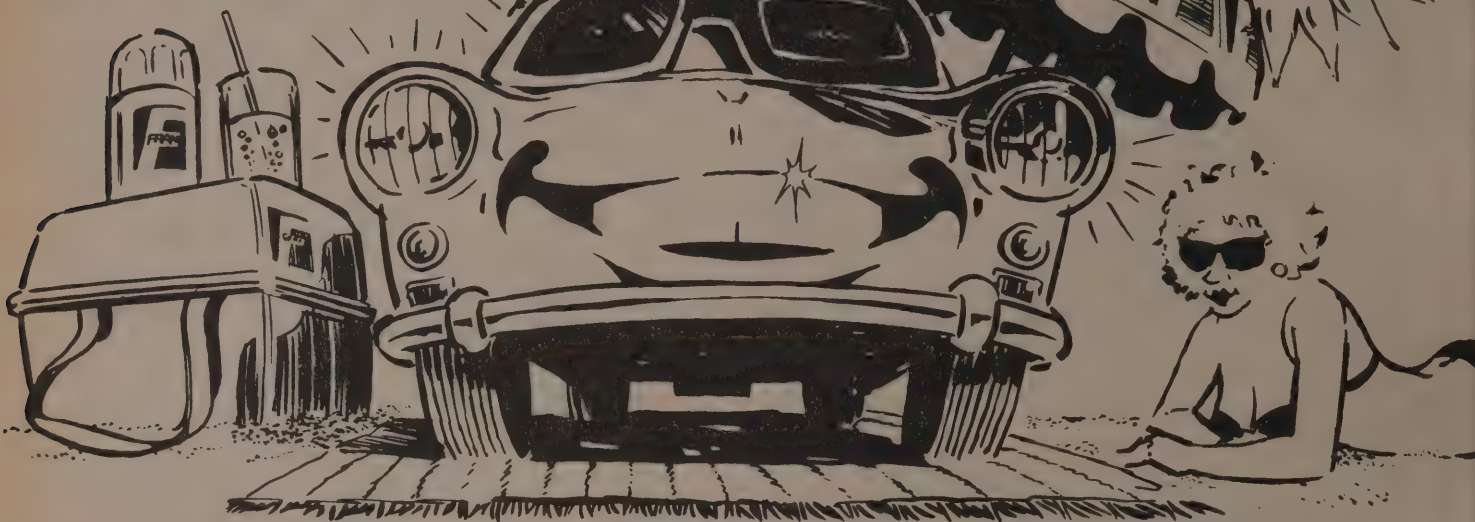
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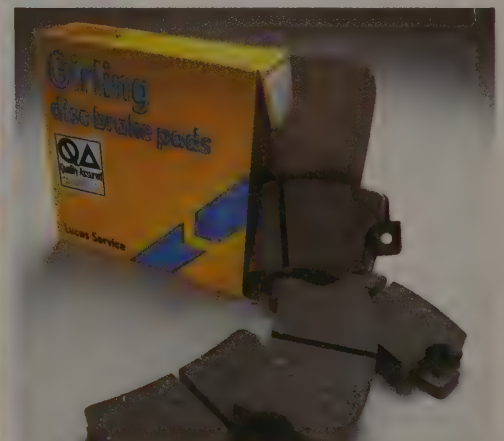
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On test: Daimler Sovereign 4.2
BMW 735i, Citroen Visa Super
Datsun New Cherry saloon

VW Devon Moonraker

Royal Enfield 350, MZ250

Long-term: Triumph Spitfire
Jaguar XJ6 4.2, Volvo 345DL

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*Motor Road Test Report Opel Kadett 1.3 GL, 8.12.1979.

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[†]UK Government Fuel Consumption Tests: 1.3 N Engine manual, 2 door Saloon L/LS, 4 door Saloon L/LS, 3 door Hatch LS, 5 door Hatch LS, 3 door Estate L/LS, 5 door Estate LS, Urban 28.8 mpg (9.8 L/100 km) 56 mph (90 k/h) 42.8 mpg (6.6 L/100 km) 75 mph (120 k/h) 30.7 mpg (9.2 L/100 km). 1.3 S Engine manual, 5 door Estate GL Urban 28.8 mpg (9.8 L/100 km) 56 mph (90 k/h) 45.6 mpg (6.2 L/100 km) 75 mph (120 k/h) 34.4 mpg (8.2 L/100 km). 2 door Saloon SR, 4 door Saloon GL/Berlina, 5 door Hatch GL/Berlina Urban 28.8 mpg (9.8 L/100 km) 56 mph (90 k/h) 47.1 mpg (6.0 L/100 km) 75 mph (120 k/h) 34.0 mpg (8.3 L/100 km).

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 ult. And when it isn't, it's
 robably worse — at least for
 our blood pressure.
 I'm talking about The
 runch, when, through bad
 ick or bad driving, or maybe
 oth, your pride-and-joy car
 ets the instant secondhand
 ook: bent bodywork and
 rumpled chrome, amid oaths
 nd imprecations.
 A new experience, then, for
 RIVE's motorists to 'order-up'
 he Crunch — a 15mph con-
 trolled collision — as the pre-
 vide to our important invest-
 gation into accident repair-costs
 nd practices. Read all about
 , page 32.
 Don't miss this issue's car,
 otorcycle and motor-caravan
 sts, either; nor our unique
 ick of 'big-money' cars to col-
 lect for the 21st century (page
 7). And speaking of money,
 ere's the latest Index of
 totoring Costs awaiting you
 n pages 44-45.

- the Editor

No room at the inn

IT ISN'T just a fear of costly hotel bills that diverts holiday families to self-catering accommodation at Britain's resorts. Though official seaside brochures and guides show pictures galore of happy youngsters at play, it would seem that many hotels don't exactly put themselves out for young children.

The charge comes from firms that operate package-holidays in the UK. Their verdict: in many popular resorts, children are barely tolerated.

DRIVE put the accusation to the test by checking 4250 hotels and guesthouses in the official guides of 10 major holiday resorts... and found that less than 10% really went out of their way to cater for the special needs of families with young children. Some made it quite clear that children under a certain age — usually five — were not accepted, and 60% didn't advertise any special services at all. The main shortcomings...

- a lack of babysitting or baby-listening services
- an absence of playrooms and playgrounds
- failure to provide washing, drying and ironing facilities

DRIVE's investigation reveals that, of 800 establishments in Bournemouth, only 87 provide any children's facilities at all, and just 18 of these offer babysitting or baby-listening, washing, drying and ironing, and a games room. In Blackpool, according to the tourism department, only one in every 10 hotels claims to provide a full range of amenities. DRIVE looked up the details of a sample seven, but drew a blank at each one. Of Newquay's 550 hotels, 'only a very few,' admitted a spokesman, 'have full facilities for young families', while a mere four of Weston-super-Mare's 212 hotels, guesthouses and farmhouses boast baby-minding, a laundry room and a children's play area. Scarborough has 375 hotels and guest-

houses, but only three offer full facilities for youngsters. Torquay's list claims that all but 90 of its 396 places welcome children, but the official guide shows that only 52 offer baby-minding and only 18 provide anything more.

Says Raymond Roberts, of the planning division of Golden Rail Holidays: 'Nine of the 21 places we offer at Bournemouth bar children below a specified age. Of the remaining 12, just four provide a playroom, and only seven have a baby-listening service. Many hotels, in my view, presume that guests' children disappear after breakfast.'

A spokesman for another major operator tells DRIVE: 'About a quarter of the hotels we've inspected merely pay lip-service to the idea of catering for children. In many cases, parents are made to feel awkward and uncomfortable — especially at meal times. As for hotels that refuse to take youngsters, I can only say that they're lucky to have sufficient customers to stay in business. But if they don't change their tune, will they still be around in a few years' time?'

Says Nancy Downing, of the Best-Western hotel-booking company: 'Only about a third of the hotels that we've ever considered could be regarded as children's paradises.'

Homers Hotel, in Torquay, explains the problem. Says a spokesperson: 'We used to take a lot of children, but received a number of complaints about noise and bad behaviour. We now ban under-fives, and have only two family bedrooms.'

'We allow a third off for children who stay in these with their parents, but we don't offer meal concessions. When the weather is bad, the children are allowed to play in the family bedrooms, where they can also watch colour TV. But usually we find that parents prefer to take their youngsters out; most people arrive in their own cars these days.'

In contrast, the Ivyside, at

Westgate-on-Sea, Kent, bends over backwards to accommodate children. 'We regularly have 60 a week,' says a spokesperson. 'And we put on a lot of things for them in the belief that if the youngsters aren't happy, then neither are the parents.'

Which shows that youngsters and the not-so-young can mix...

Beginner's luck

THE AA IS doing its bit to cut the high accident rate among motorcyclists — by offering an insurance bonus that encourages beginners to take a training course. If novices can present a recognised proficiency certificate at the time of application, they will not be charged the normal 50% premium loading.

The move has brought praise from the Royal Society for the Prevention of Accidents. Says spokesman Geoff Large: 'Anything that can spur youngsters to get proper training is welcomed as a step in the right direction.'

In fact, this scheme is just one of several incentives in a new multi-benefit plan for motorcyclists from AA Insurance Services, which, as the nation's biggest motor-insurance broker, has obtained a highly competitive combination of low premium rates from five insurers.

Other advantages include: a 40% no-claims discount, rising to 50% if a rider doubles the normal policy damage excess; and free cover on any additional machine owned by the insured. Apply to any AA office for further details.

Beta particles

LANCIA LOVERS ought to develop long memories of the rusting Beta affair, or risk expensive trouble in the future. For no faulty car recall has yet been 100% successful in Britain, and Lancia's is likely to be no exception.

To recap: Lancia, with the aid of the Swansea-based DVLC computer, has been contacting 40,000 British owners of Betas manufactured since 1973, advising them to take their cars to Lancia dealers for inspection. This follows the discovery of rusty subframe mountings which, says Lancia, could render the model unroadworthy. The British Safety Council's opinion is that they could prove a 'serious safety defect'.

It seems that only Series-1 Betas are affected. They were discontinued in 1976, but Lancia is seeking to examine every Beta sold in the UK to 'remove any doubts' and to help ensure that defective cars do not slip through the net. Where possible, dealers repair the corrosion damage, or offer part-exchange on another car. If it is accepted, the defective



'Coo-ee, Mr Watson. You're lift's here.'

Beta is sent for destruction at a specially-appointed scrapyards. Lancia is reluctant to entertain straight cash settlements, but says that it will treat any such request on the merit of the case.

Lancia's efforts appear to prevent any possibility of faulty Betas appearing on the used-car market. Unfortunately, this may not be the case, so DRIVE's advice is to tread warily when considering buying a secondhand Beta, after the headlines have faded.

Inevitably, some suspect Betas will go undetected by the computer, and, as a recent incident shows, there's no guarantee that the MoT test will find them. A Beta that burst into flames in

Northampton in April, when its engine fell out, had recently passed its MoT... Apparently, a Lancia dealer had faulted the car a fortnight after its MoT because of its rusty engine mountings, but the owner chose to have the car repaired by a non-Lancia garage. So it seems that the quality of repair is yet another potential hazard that faces the secondhand Beta buyer.

Not surprisingly, the bottom has also fallen out of the Lancia used-car market. But, as time goes by, and the Beta's bad reputation fades, its value could recover. And it might just be that someone, somewhere, is taking advantage of the current slump by



THIS SMART eyebrow-raiser from Ford's styling studios could be in production within five years. Designed for the US market, the compact front-wheel-drive, five-door family saloon prototype embodies lightweight materials which, together with aerodynamic shape, are aimed at improving performance, high-speed stability, and fuel efficiency.

DRIVE ON-THE-ROAD NEW-CAR PRICE-GUIDE

What's it called? How much does it cost? DRIVE's superguide to the latest prices of new cars currently available in Britain tells you all you need to know, immediately, whether you're buying or just browsing. And our prices aren't just what the manufacturer says: we tell you the size of the cheque you can expect to write to put your new Mini or Rolls on the road, seatbelts, numberplates, road-fund licence and delivery paid. Want to know more? Well, if the car of your choice has a DRIVE/AA road-test report number beside it, you can have a copy of the best car criticism in the business. AA members can apply to their regional AA office — address in *Handbook*. Otherwise, write to DRIVE New-car Price-guide, Fanum House, Basingstoke, Hants, RG21 2EA. But we must now ask readers who request more than one to pay 10p for each report.

(a) denotes road test on automatic model only; delivery charges where applicable estimated on an average 200 miles.

Model	Manual	Auto	DRIVE/AA Road Test
AC (14 dealers)			
3000ME	13450	—	
ALFA ROMEO (142 dealers)			
Alfasud Super			
1.3 (1350)	4160	—	D5/78
Super 1.5	4360	—	
Ti 1.5	4360	—	D6/79
Sprint Veloce	5460	—	
Giulietta 1.6	5180	—	D25/79
1.8	5460	—	
2000L	6060	—	
GTV2000	6660	—	
GTV2000SE	8056	—	
ASTON MARTIN (28 dealers)			
V8	34617	34617	
V8 Vantage	37118	—	
V8 Volante	42618	42618	
Lagonda	—	50052	
AUDI (359 dealers)			
80LS	5519	5873	
GLS	6018	6371	D18/79
GLE	7226	—	
100 Avant L	6317	—	
L5S	6821	7379	
GL 5S	7575	8132	
L5D	7635	—	
Avant GL 5S	7762	8320	RI176
GL 5E	7979	8538	D8/78
CD 5E	—	9992	
Avant CD 5E	—	10459	
200 5T	13081	13081	
AUSTIN-MORRIS (1850 dealers)			
Mini 850 City	2785	—	RTR340
850 Super	2942	—	
1000 Super	3017	3464	D3/78
Clubman			
(1098cc)	3326	—	RTR410
Clubman			
(998cc)	—	3773	
estate			
(1098cc)	3607	—	
estate			
(998cc)	—	4054	
1275GT	3720	—	
Allegro 1100	3350	—	
Mk 3 1.1 4dr	3480	—	
1300 2dr	3476	3923	
4dr	3606	4053	
1300L 2dr	3851	—	
4dr	3955	4360	
1300HL 4dr	4321	4768	
1300 estate	3854	4301	
1300L estate	4130	4577	8014A
1500L 4dr	4056	—	
1500L estate	4304	—	D9/79

1500HL 4dr	4494	—	
1750L 4dr	—	4497	
1750L estate	—	4745	
1750HL 4dr	4660	4935	RI182
1750HL estate	5087	5492	
Vanden Plas			
1500 4dr	5395	5836	
Marina 1300	3326	—	
4dr	3354	—	
1300L 2dr	3479	—	
4dr	3572	3977	RTR392
1300HL 4dr	4362	4767	
1300 estate	4196	—	
1700 4dr	3981	—	
1700L 4dr	4224	4629	
1700HL 4dr	4661	5066	D4/79
1700 estate	4447	—	
1700L estate	4689	5094	
1700HL estate	5087	5492	
Maxi 1750	4541	5018	RTR263
1750HL	4801	5278	
1750HLS	4931	—	805
Princess 1700L	4588	5093	
1700HL	5025	5530	
1700HLS	5508	6013	
2000HL	5300	5805	
2000HLS	5781	6286	
2200HLS	6281	6786	D11/78
BENTLEY (77 dealers)			
T2 Series	—	42141	
Corniche	—	62659	
Convertible	—	66547	
BMW (144 dealers)			
316	5576	—	RI149
320	7011	7471	
323i	8146	8606	D12/79
518	7206	—	
520	8371	9081	D11/78
525	9546	10081	
528i	10816	11331	
728i	12656	13171	
732i	14546	15061	
735i	16396	16756	
735i Special	17350	17710	
635CSI	19171	19171	
BRISTOL (0 dealers)			
412 S2			
convertible-			
saloon	—	32827	
412/S3			
Beaufighter	—	38108	
603 S2	—	39328	
BUICK (5 dealers)			
Century	—	9588	
CADILLAC (5 dealers)			
Seville Elegante	—	21779	
Elegante (lhd)	—	19406	
Seville	—	18372	
Seville (lhd)	—	15999	
Fleetwood			

Brougham			
d'Elegance	—	15879	
CATERHAM CARS (0 dealers)			
Super Seven TC	5801	—	
1600GT	5083	—	
CHEVROLET (5 dealers)			
Caprice Classic	—	12914	
Classic (lhd)	—	10690	
Classic estate	—	13038	
Classic estate	—	10815	
(lhd)	—	10815	
Monte Carlo	—	9888	
coupe	—	9888	
Corvette (lhd)	—	12238	
CITROËN (271 dealers)			
2CV6	2449	—	RI118
Dyane	2693	—	D1/79
Visa Club	3380	—	
Super	3709	—	
GS	3747	—	
estate	4003	—	
GS 1220 Club	3776	—	RTR384
Pallas	4192	4435	
estate	4031	—	D8/79
GSA (1299cc)			
Club	4365	4526	
Pallas	4718	4878	
estate	4587	4854	
CX Reflex	5743	—	
Athena	6721	—	
2400 Pallas	7667	7882	
2500 Diesel			
Super	7245	—	
Diesel Pallas	7867	—	
2400 Pallas			
Injection	—	8370	
GTi	8347	—	
Prestige			
Injection	—	11132	
2400 Super			
estate	7165	7515	
5-speed	7300	—	
2500 Diesel			
Super estate	7568	—	
5-speed	7704	—	
Familiale 2400			
Super	7294	7644	
5-speed	7430	—	
2500 Diesel	7695	—	
5-speed	7831	—	
COLT (280 dealers)			
GLX 3dr			
hatchback	4059	—	
GLX 5dr			
hatchback	4309	4654	
Lancer 1400GLX	4459	4804	
1600GSR	4859	—	
Celeste 1600ST	4559	—	
GS	4719	—	D5/78
2000GT	5059	—	
Sigma 1600GL	4719	5064	

2000GLX	5359	5704	RTR43
estate	5959	—	
Sapporo 2000	6659	7004	
DAIHATSU (85 dealers)			
F20 soft top	5330	—	
hard top	5496	—	
F50 soft top			
(diesel)	5761	—	
hard top			
(diesel)	5947	—	
Charade XG	3111	—	
XTE	3481	—	
DATSUN (400 dealers)			
New Cherry 1.0			
3dr hatchback	2907	—	RI179
1.0GL 3dr	3187	—	RI179
1.0GL 4dr			
saloon	3251	—	RI179
1.2GL 5dr			
hatchback	3386	—	
1.0GL 5dr			
estate	3467	—	RI179
1.2GL 3dr			
coupe	3661	—	RI179
Sunny 1.2GL			
2dr	3439	—	
1.2GL 4dr	3540	—	
1.4GL 2dr	—	3911	
1.4 GL 4dr	—	4002	
1.2GL estate	3788	—	
1.4GL fastback			
estate	4089	—	
1.4GL hatchback			
coupe	3888	—	
Violet 140J Mk 3	3833	—	
160J Mk 3	3916	4214	
160J SSS			
hatchback			
coupe	4401	—	
1.4GL	3937	—	
1.6GL	4027	4325	
1.6GL SSS			
hatchback			
coupe	4511	—	
Bluebird 1.6GL	4132	—	
1.8GL	4240	4538	
1.8GL estate	4640	—	
1.8GL coupe	4740	5038	
Laurel 2litre	5638	5978	
2.4litre	6338	6678	
Skyline 240K			
coupe	6903	7243	
2.4litre	7290	7630	
280C 2.8litre	7838	8178	
2.8litre estate	7838	8178	
280ZX 2-seater	8770	9110	
2+2	9724	10064	
DE TOMASO (2 dealers)			
Pantera GTS	23003	—	
Longchamp	—	27027	
Deauville	—	30154	
FERRARI (19 dealers)			
Dino 308GT4	17652	—	
308GTB	19181	—	
308GTS	20019	—	
400GT	31926	31926	
512B	33198	—	
FIAT (400 dealers)			
126	2232	—	
de Ville	2450	—	D1/79
127 900L 2dr	3010	—	RI137

stockpiling Betas with a view to making a killing in the future.

Jaguar recall

BL CARS IS RECALLING 729 Jaguar-Daimler SIII 4.2 saloons for an adjustment to the fuel filter's bracket. The models affected, all manufactured in 1979, have vehicle identification numbers from 309166-310613.

Smash and grab

DRIVE'S INVESTIGATION on page 32 shows how get-rich-quick car repairers can help to raise insurance premiums. Now the government threatens to do the same by putting up emergency hospital treatment charges for motorists.

An injured driver is billed by

the Health Department for his treatment. He then passes the invoice on to his insurance company, which pays and, to cover its costs, increases premiums the following year. The circle has been made more vicious by Whitehall raising the maximum inpatient bill from £200 to a staggering £1250, which, say the insurance companies, is going to put up premiums by 2½%.

Motorists won't be receiving any extra service in return for their increased premiums. The number of accident and emergency hospitals with specialist consultants has remained virtually unchanged since DRIVE's investigation into the shortcom-

ings of the National Health Service, three years ago. Only a third of them have accident consultants.

In the same period, mobile hospital flying squads have risen by just four to 14 nationwide, yet the DHSS is still against ambulance crews being trained in advanced resuscitation techniques — skills that can mean the difference between life and death.

Only immediate-care schemes run by general practitioners are making any significant progress. According to the British Association for Immediate Care, there are now 73 mobile units around the country, equipped to give life-saving treatment at accidents. Typically, these are run by volun-

tary organisations mainly funded by the doctors themselves.

Meanwhile, as DRIVE reported in 1977, more than 1000 road accident victims could be dying unnecessarily every year for want of prompt resuscitation.

The Italian job

IN CURIOUS contradiction to its 'Buy British' campaign, the successor to Austin-Morris's Marina range is called the Morris Ital.

The nine-year-old Marina range retires this July, to make way for the new Guigiaro design. Says a spokesman: 'The Ital will be a Marina replacement — a straightforward, mid-range saloon and estate to appeal to

1050L 3dr	3210	—	
1050CL 3dr	3423	—	RTR429
Sport	3781	—	809
128 1300CL	3514	—	RTR402
CL estate	3781	—	
X1/9 1500	5694	—	D14/79
Mirafiori 1300CL	3986	—	
4dr	4115	—	
1600CL 4dr	4510	4837	
estate	4761	5064	RTR412
Supermirafiori			
1600TC	5035	5362	D1078(A)
estate	5219	5546	
Mirafiori Sport	5609	—	
132 2litre	5903	6244	D12/78
Bellini	6124	6463	
Strada 65L			
1300 3dr	3519	—	
65L 1300 5dr	3637	—	
65CL 1300 3dr	3804	—	
65CL 1300 5dr	3940	—	
75CL 1500 3dr	4239	4578	
75CL 1500 5dr	4359	4668	D17/79

FORD (1241 dealers)			
esta 950	3209	—	RTR417
1100	3374	—	
950 (45bhp)	3565	—	D16/79
1100L	3736	—	
1100GL	3985	—	
1300GL	4199	—	
1100S	4089	—	
1300S	4298	—	RI181
1100 Ghia	4380	—	RI170
1300 Ghia	4589	—	
Escort 1100			
Popular 2dr	3311	—	
1100 Popular			
Plus	3417	—	
1100 Popular			
Plus 4dr	3545	—	
1300 Popular			
2dr	3452	—	
1300 Popular			
Plus	3549	—	D4/78
1300 Popular			
Plus 4dr	3684	—	
1100L	3675	—	
1100L 4dr	3814	—	
1300L	3918	4304	
1300L 4dr	3928	4314	
1600L	4142	4528	
1300GL	4066	4452	
1300GL 4dr	4206	4592	
1600GL	4430	4816	
1300 Sport	4367	—	
1600 Sport	4499	—	
1300 Ghia	4595	—	
1300 Ghia 4dr	4735	—	
1600 Ghia	4857	5243	D4/79
1100 estate	3640	—	
1300 estate	3830	—	
1300L estate	4195	4581	
1300GL estate	4562	4948	
RS2000	5126	—	
Cortina 1300	3882	—	
1300 4dr	4017	—	
1600	4241	4627	
1300L	4211	—	RTR372
1300L 4dr	4354	—	
1600L	4576	4962	D22/79
1600GL	5074	5460	
2000GL	5330	5716	
2300GL	5994	6380	RI183
1600 Ghia	5764	6180	
2000 Ghia	5958	6344	

2300 Ghia	6622	7008	
1600 estate	4661	5047	
1600L estate	5120	5506	
1600GL estate	5538	5924	
2000GL estate	5803	6189	RTR413
2300GL estate	6464	6850	
1600 Ghia			
estate	6251	6637	
2000 Ghia			
estate	6414	6800	
2300 Ghia			
estate	7075	7461	
Capri 1300L	4291	—	RTR373
1600L	4513	4899	
1600GL	4876	5262	RTR342
2000GL	5171	5557	
1600S	5543	—	
2000S	5776	—	RI166
3000S	6211	—	
2000 Ghia	6406	6792	
3000 Ghia	—	7251	RI114
Granada 2000L	6140	6610	RI128
2300L	6787	7257	
2300GL	8154	8624	
2800GL	—	8769	
2800GLS	9430	9900	
2300 Ghia	9434	9904	
2800 Ghia	—	10062	
2800i Ghia	10508	10978	802(A)
2000L estate	6714	7184	
2300L estate	7365	7835	
2300GL estate	8328	8798	
2800GL estate	—	8936	D8/78(A)
2800i GL			
estate	9584	10054	
2800 Ghia			
estate	—	10296	D8/78
2800i Ghia			
estate	10747	11217	
2100 diesel	6311	6781	

FORD USA (14 dealers)			
Mercury Monarch			
Ghia (rhd)	—	9438	
Mustang Ghia			
Turbo (lhd)	7889	—	

HONDA (236 dealers)			
Civic 1300 3dr	3138	3368	
1300 5dr	3338	3568	RI155
Accord 3dr	4338	4608	RTR420
4dr	4528	4798	D4/79
Executive DL	—	5598	
Prelude	5098	5368	806

JAGUAR-DAIMLER (286 dealers)			
Jaguar XJ6 3.4	14140	14140	RTR380
XJ6 4.2	15491	15491	
XJ12 5.3	—	18308	RTR305
XJS	—	19339	RTR394
Daimler			
Sovereign 4.2	16485	16485	
Double Six	—	19297	
Vanden Plas 4.2	—	20688	
Double-Six			
Vanden Plas	—	25147	

JEEP (85 dealers)			
CJ7 soft top	5663	—	
hard top	6078	—	
Renegade			
soft top	7207	—	
hard top	7580	—	
CJ Golden Eagle	7207	—	
hard top	7580	—	
Cherokee 4dr			

(6-cyl)	10539	10759	
S (6-cyl)	—	11519	
SV8	—	11939	D2/79
Chief V8	—	12159	
Golden Eagle	—	12689	

LADA (200 dealers)			
1200	2601	—	RI175
estate	2840	—	
1300	2819	—	D4/79
1500 estate	3037	—	
1600	3240	—	RI173
1600ES	3640	—	RI173
Niva	4711	—	

LANCIA (120 dealers)			
1600	5156	—	
2000	5449	5904	RI171M
2000ES	5829	6284	
Beta coupé	5123	—	
1600	5838	—	
2000	6314	—	
Beta Spyder			
2000	6861	—	
Beta HPE 1600	6586	—	
2000	7118	—	
Gamma Berlina	8022	—	
Gran Turismo	10021	—	

LAND-ROVER (342 dealers)			
Land-Rover	5611	—	RTR333
diesel	6416	—	
lwb	6526	—	
lwb (diesel)	7331	—	
lwb 6-cylinder	6641	—	

LOTUS (32 dealers)			
Elite Series 22	16312	16572	
Éclat	16012	16272	
Esprit	15121	—	

MASERATI (4 dealers)			
Merak SS	23228	—	
Kyalami 4.2	30230	—	
Kyalami 4.9	34229	33220	
Khamzin	34229	—	

MAZDA (230 dealers)			
1300 hatchback	3665	—	D4/78
1300 hatchback			
5dr	3865	—	RTR424
1.4 Special			
hatchback	4065	—	
1400 hatch 5dr	—	4165	
1400 estate	4085	—	D10/79
Montrose			
1600GL	4515	—	
GLS	4815	—	
2000GLS	5115	5431	D23/79
GLS coupé	5615	5965	
2000 estate	5785	6165	
RX-7	8715	—	
TWR coupé	7365	—	

MERCEDES-BENZ (98 dealers)			
200	8509	—	
200D	8840	—	
230	—	9565	
230C	—	11665	
240D	9580	9692	
240D lwb	14209	14649	
240TD estate	10939	10939	
250	—	11109	
250T	—	12254	
250 lwb	—	14209	
300D	—	11290	

280E	—	12890	D11/79
280SE	—	14573	
280CE	—	14655	
280TE estate	—	14410	
280SL	—	16715	
280SLC	—	17715	
350SE	—	17006	
350SL	—	17410	
450SE	—	18254	
450SEL	—	19276	
450SL	—	18606	
450SLC	—	21976	
450SEL 6.9	—	30591	

MORGAN (18 dealers)			
4/4 1600	5782	—	
4-str	6373	—	
Plus 8	8304	—	

MG (1746 dealers)			
MG Midget	3967	—	
MGB Sports	5310	—	
MGB GT	6039	—	D13/79

OPEL (239 dealers)			
Kadett L 2dr	3623	—	
L 4dr	3768	—	
L 3dr estate	4044	—	
LS 2dr	3847	—	
LS 4dr	3994	—	
LS 3dr	3953	—	8016
LS 5dr	4100	—	
LS 3dr estate	4334	—	
LS 5dr estate	4378	—	
GL 4dr	4471	—	
GL 5dr	4574	—	
GL 5dr estate	4774	—	
Berlina 4dr	4943	—	
Berlina 5dr	5025	—	
SR	4840	—	
Ascona SR	5189	—	
4dr L	4214	—	
4dr GL	4618	5065	
4dr GL 2.0	4851	5298	
Berlina 2.0	5428	5875	
Manta 2.0			
Berlinetta			
hatchback	6025	6472	
coupe	5889	6336	
Rekord 4dr	5612	6088	
Berlina	6134	6610	D12/78
Berlina HL	7051	7527	
estate DL	6478	6954	
saloon DL			
diesel	6910	7386	
estate DL			
diesel	7452	7928	
Senator 2.8S	9030	9596	
CD	—	11848	
Monza coupé	12168	12734	

PANTHER (35 Lima and 3 de Ville dealers)			
J72 4.2	24145	24568	
de Ville 5.3			
saloon	—	58400	
convertible	—	72365	
Lima	9148	9609	
Lima Turbo	12147	—	

PEUGEOT (275 dealers)			
104ZL	3308	—	
104ZR	3639	—	
104ZR Custom	3837	—	
104ZS	4238	—	R1146
104GL	3438	—	RTR406
104GR	3768	—	

fleet buyers. That's why we have been running our campaign of 10% off Marina prices.'

There's an improved engine for one of the Itals — probably the 1300cc — and Austin-Morris promises more comfort, more refinement and more extras.

Doodle bugs

OFTEN, THEY START as doodles on the back of a cigarette packet, or on blotting paper, and usually

they fly through the letterboxes of the motor industry's research departments. Britain's four major car-producers, BL Cars, Ford, Talbot and General Motors, all receive many inventions from the public for consideration.

Sadly, not one well-intentioned suggestion has borne fruit. Cynical inventors insist that really good ideas are bought-up and then suppressed for sinister commercial reasons, or that they are sent back with apologies while

they're secretly developed, or filed in the WPB...

But, as a BL Cars spokesman explains: 'In this highly technological age, it's most unlikely that laymen will come up with something that our boffins haven't already thought of.'

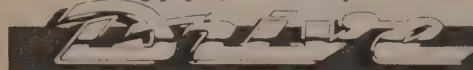
Nevertheless, manufacturers welcome the public's more-constructive suggestions. Says John Dobbs, head of General Motors' new-devices section: 'My greatest fear is that someone

will come up with a really superior idea, and that I won't hear about it. Sincerely, I want to see all suitable new ideas.'

About 100 of the 6000 ideas sent annually to GM are from would-be British inventors. Some arrive scrawled in crayon on school paper, others are comprehensive technical drawings and they range from fasteners to flying saucers.

'Every submission is consid

continued on page



ON-THE-ROAD NEW-CAR PRICE-GUIDE

104SR	3915	—	RI190
104SR Custom	4237	—	
104S	4367	—	
305GL	4168	—	D9/78
305GRS	4468	—	
305GR	4968	—	D9/78
305SR	4998	—	RI162
305SR Custom	5389	—	
305GRD	5291	—	D19/79
304GL estate	3920	—	RTR386
304SL estate	4217	—	
504GR	5064	5558	RI174M
504GRD	5796	—	RTR425
504 estate	5573	—	
GR estate	6289	6883	RI159
Family estate	6669	7163	
D estate	6306	—	
Family diesel estate	7490	—	
505GR	6367	6862	
SR	6892	7386	
TI	6868	7362	
STi	7589	8084	803
GRD	7182	—	
SRD	7706	—	
604SL	8779	9373	RTR391
TI	10374	10838	RI167
D Turbo	9677	—	

POLSKI FIAT (126 dealers)			
125P	2594	—	RTR379
estate	2950	—	
Polonez	3510	—	

PONTIAC (5 dealers)			
Trans-Am (Rhd)	—	12212	

PORSCHE (27 dealers)			
924	9286	9765	D7/78
924 Lux	9785	10143	
924 Turbo	13812	—	
911SC (coupe or targa)	16292	—	
911SC (sport coupe or targa)	17537	—	
928	21910	21910	
928S	25434	25434	
Turbo	28133	28133	

PORTARO (44 dealers)			
Pampas 250D	7066	—	
250DL	7446	—	
250DPU	7584	—	
250DP	7733	—	

RELIANT (184, and 76 Scimitar dealers)			
Robin 850	2765	—	
estate	3015	—	
Super Robin 850	3165	—	
estate	3365	—	D21/79
Kitten DL	3447	—	
DL estate	3707	—	
Scimitar GTE	10491	10491	RTR303
GTC	11527	11527	

RENAULT (568 dealers)			
4TL	3153	—	RI161
4GTL	3362	—	8017
5	3142	—	
5TL	3531	—	D3/78
5GTL 3dr	3733	—	RI143
5dr	3890	—	
5TS	4118	—	RTR370
5 auto	—	4222	RI172
5dr	—	4379	
5 Gordini	5280	—	803
12TL	4024	—	RTR385
estate	4480	—	RTR374
14TL	3964	—	RTR414
14GTL	4159	—	

14LS	4218	—	
14TS	4600	—	D6/78
18TL	4181	—	
18TS	4592	—	RI189
18GTL	4839	—	
18 auto	—	5269	
18GTS	5306	—	
18TL	—	—	
estate	4633	—	
18LS	—	—	
estate	4891	—	
18TS	—	—	
estate	5086	5422	
20TL	5672	—	RTR409
20LS	6132	6468	
20TS	6850	7186	D12/78(M)
30TS	8180	8517	RI134(M)
30TX	9653	9989	RI134

ROLLS-ROYCE (77 dealers)			
Silver Shadow II	—	42141	RTR312
Silver Wraith II	—	49628	
Corniche	—	62659	
Convertible	—	66547	
Camargue	—	76301	

ROVER-TRIUMPH (946 dealers)			
Rover 2300	6727	7182	RI186
2600	7851	8101	D8/78
3500	9827	10077	RTR428(M)
V8S	11439	11689	
Range Rover 3.5	12947	—	D2/79
Triumph Spitfire	4454	—	RTR376
hardtop	4619	—	
Dolomite 1300	4143	—	
1500	4445	4877	RTR345
1500HL	4945	5377	RTR345
1850HL	5511	5943	RTR288
Sprint	6685	6844	RTR332
TR7 fixed head	6322	6601	RTR401
drop head	6105	6384	

SAAB (201 dealers)			
99GL 2dr	5412	—	
99GL 4dr	5897	6407	
99 Turbo 2dr	8077	—	
900GL 3dr	4617	—	
900GLS 3dr	6912	7487	
900GLS 5dr	7132	7777	
900EMS 3dr	8102	—	
900GLE 5dr	9037	9027	
900 Turbo 3dr	10487	—	
900 Turbo 5dr	10887	—	

SKODA (285 dealers)			
S110R coupé	2284	—	
105S	2159	—	
105L	2353	—	D1/79
120L	2405	—	
120LE	2604	—	
120LS	2853	—	RI169
120LSE	3054	—	

SPARTAN (0 dealers)			
Sports 2dr	on app.	—	
2+2	lication	—	

SUBARU (86 dealers)			
GLF	4133	—	
GFT coupé	4631	—	
4wd saloon	5129	—	
DL estate	4332	—	
4wd estate	5378	—	

SUZUKI (24 dealers)			
SC100	2660	—	
QF soft-top	3810	—	
LJ80V 4wd	3810	—	

TALBOT (650 dealers)			
Sunbeam 1.0LS	3240	—	RI164

1.3LS	3494	3889	
1.0GL	3530	—	
1.3GL	3793	4188	
1.3 Trio	3714	—	
1.6GL	3950	4345	D6/78
1.6GLS	4485	4880	
1.6Ti	4796	—	
Lotus	7335	—	
Avenger 1.3LS	3648	4043	
1.6LS	3805	4200	
1.3GL	4226	4621	
1.6GL	4383	4778	
1.3LS estate	4061	4456	
1.6LS estate	4218	4613	
1.3GL estate	4665	5060	
1.6GL estate	4822	5217	
1.6GLS estate	5014	5409	

Horizon LS			
1118cc	3683	—	
1294cc	3829	—	
GL 1118cc	4183	—	D5/79
1294cc	4328	—	
GLX 1234cc	4718	—	RI177
SX 1442cc	—	5350	

Alpine LS			
1294cc	4274	—	RI151
1442cc	4470	—	
GL 1442cc	4956	—	RTR381
GLS 1442cc	5737	—	
SX 1592cc	—	6625	

Solara 1.3LS			
1.6LS	4199	—	
1.6LS	4396	—	
1.6GL	4882	—	
1.6GLS	5612	—	
1.6GLS 5-speed	5772	6012	
1.6SX	—	6500	
2litre	5394	5752	RTR308
Matra Rancho	5580	—	

TOYOTA (236 dealers)			
Starlet GL 3dr	3240	—	D3/79
GL 5dr	3341	—	D3/79
1200GL 3dr	3470	—	
1200GL 5dr	3570	—	RI187

Corolla 1300DX 2dr	3394	3593	
1300DX 4dr	3494	3694	
1300DX 5dr estate	3724	—	
1600DX 3dr liftback	4015	—	
1600SR 5 3dr	—	—	
coupe	4363	—	
Carina 1600 DL	4064	4353	D10/78
1600DL	—	—	
estate	4324	—	

Celica 1600ST	—	—	
coupe	4543	—	
2000ST	—	—	
Liftback	4939	—	RTR423
2000XT	—	—	
Liftback	5826	6032	
2000GT	—	—	
Liftback	6144	—	

Cressida	—	—	
2000DL	4720	4995	
estate	5036	5351	
Corona GL	—	—	
Liftback	5414	5614	RI185
Crown 2800	—	—	
Super 4dr	—	8645	
saloon	—	—	

TVR (20 dealers)			
3000M	8206	—	
convertible	8941	—	
Taimar	9195	—	D7/78
Turbo	12206	—	
convertible	12923	—	
Taimar Turbo	13195	—	
Tamsin	13011	—	

VAUXHALL (650 dealers)			
Chevette E 3dr	3278	—	

L 3dr	3577	3936	
GL 3dr	3962	4321	D3/79
E 2dr saloon	3229	—	
E 4dr saloon	3359	—	
L 2 dr saloon	3528	3887	
L 4dr saloon	3658	4017	RTR396
GL 4dr saloon	4043	4402	
L 3dr estate	3981	4340	
E 3dr estate	3691	—	
Astra L estate	4563	—	
L 5dr hatchback	4381	—	
GL hatchback	4792	—	
Cavalier 1300L	4045	—	
1300L 4dr	4175	—	D9/78
1600L	4260	4707	RTR382
1600L 4dr	4391	4838	RI163(a)
1600GL 4dr	4820	5267	
2000GL 4dr	5072	5519	RI152
2000GLS 4dr	5553	6000	
1600GL	—	—	
sports hatch	5148	5595	
1600GLS	—	—	
sports hatch	5629	6076	
2000GLS	—	—	
sports hatch	5882	6329	RI184
Carlton 2000	6043	6519	D12/78
5dr estate	6635	7111	
Royale 2800	10290	10290	D24/79
coupe	10837	10837	

VOLKSWAGEN (359 dealers)			
Polo N900 3dr	3246	—	
L900 3dr	3569	—	RTR408
GLS 1100 3dr	3931	—	RI183

Derby			
S1100 2dr	3432	—	
LS 1100 2dr	3781	—	D3/79
GLS 1300	—	—	
2dr	4136	—	RI168

L 1100 5dr	4049	—	RTR411
LD (diesel)	—	—	
1500 5dr	4865	—	RI160
LS 1300 3dr	4236	—	
GLS 1300 5dr	4703	—	
GLS 1460 5dr	—	5062	D6/78
GTi 1600 3dr	5266	—	807
Convertible	6983	—	

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RUN DOWN TILL I WAS
FITTED UP WITH
A **MOTORCRAFT**
TUNE-UP KIT!

Motorcraft

**ETK102
TUNE-UP KIT**

Austin Austin Healey Sprite MkIV, Mini Cooper S MkIII, 1300 GT, 1800 MkII, Maxi, Maxi 1500, Maxi 1750, Maxi 1750 HL, Allegro 1485, 1748, Mini 1275 GT

Ford (GB) Capri GT 1498, Corsair GT 1498, Corsair V4 1662, Corsair V4 GT 1996, Cortina Super GT 1498, Cortina Lotus 1558, Escort Twin Cam 1558, Zephyr Four MkIV 1996, Transit 1663-12cwt, 17cwt, 22cwt, Transit 1996-25cwt, 30 cwt, 35 cwt

Hillman Imp, Imp MkII, Minx Series VI, New Minx, Hunter, MkI, MkII, Avenger

Morris Mini Cooper S MkIII, 1300 GT, 1800 MkII, Marina 1800, 1800 TC

Riley Kestrel 1300 Mk II

Rover 2000 SC

Singer Champ

Sunbeam Imp

Triumph T16

Wolseley 1800



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All loans are subject to compliance with government controls; for example, the maximum loan on a motor car is two thirds of the cost and the longest payment period is 24 months.

Apply now. Below are tables at the current rate of interest which will help you decide on the loan which suits you best. Complete the application form opposite and post it to Mercantile Credit, FREEPOST, P.O. Box No. 75, London WC2B 5XA ...no stamp is needed. You will receive a personal cheque within a few days of your loan being approved.

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Interest on amount of loan: 1-2 years - 14.5% flat for each 12 months.

3-5 years - 15% flat for each 12 months.

Amount of loan	12 Months True rate 29% p.a.		24 Months True rate 28.5% p.a.		36 Months True rate 28.5% p.a.		48 Months True rate 27.5% p.a.		60 Months True rate 26.5% p.a.		Amount of loan
	Interest	Monthly Payment	Interest	Monthly Payment	Interest	Monthly Payment	Interest	Monthly Payment	Interest	Monthly Payment	
£	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£
1000	145.04	96.42	290.00	53.75	450.08	40.28	599.84	33.33	750.20	29.17	1000
950	137.80	90.65	275.44	51.06	427.36	38.26	570.16	31.67	712.60	27.71	950
900	130.56	85.88	261.12	48.38	405.00	36.25	540.00	30.00	675.00	26.25	900
850	123.20	81.10	246.56	45.69	382.64	34.24	509.84	28.33	637.40	24.79	850
800	115.96	76.33	232.00	43.00	359.92	32.22	480.16	26.67	599.80	23.33	800
750	108.72	71.56	217.44	40.31	337.56	30.21	450.00	25.00	562.80	21.88	750
700	101.48	66.79	203.12	37.63	314.84	28.19	419.84	23.33	525.20	20.42	700
650	94.24	62.02	188.56	34.94	292.48	26.18	390.16	21.67	487.60	18.96	650
600	87.00	57.25	174.00	32.25	270.12	24.17	360.00	20.00	450.00	17.50	600
550	79.76	52.48	159.44	29.56	247.40	22.15	329.84	18.33	412.40	16.04	550
500	72.52	47.71	145.12	26.88	225.04	20.14	300.16	16.67	374.80	14.58	500
450	65.28	42.94	130.56	24.19	202.68	18.13	270.00	15.00	337.80	13.13	450
400	58.04	38.17	116.00	21.50	179.96	16.11	239.84	13.33	300.20	11.67	400
350	50.80	33.40	101.44	18.81	157.60	14.10	210.16	11.67	262.60	10.21	350
300	43.56	28.63	87.12	16.13	134.88	12.08	180.00	10.00	225.00	8.75	300
250	36.20	23.85	72.56	13.44	112.52	10.07	149.84	8.33	187.40	7.29	250
200	28.96	19.08	58.00	10.75	90.16	8.06	120.16	6.67	149.80	5.83	200

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Above rates effective as at 1st May 1980



Application Form

Post to: Mercantile Credit Co. Ltd., FREEPOST, P.O. Box No. 75, London WC2B 5XA.

Surname _____

First Names _____

Married ☐ Single ☐ (Tick as applicable) Date of Birth _____

Nationality _____

Are you in good health? YES ☐ NO ☐ No. of dependent children _____

Full postal address _____

Postal Code _____ Tel. No. _____

How long at present address? _____

Owner ☐ Tenant ☐ House ☐ Flat ☐ Rooms ☐ Living with parents ☐

Profession or trade _____

Name of employer _____

Business address _____

How long in their employ? _____

Bankers _____

Bankers address (in full) _____

Do you hold a Barclaycard? YES ☐ NO ☐

DEPT. SERIAL NO. CHECK DIGIT

Occ. Code

AA Membership No. _____

Purpose of loan (give details) _____

Total cost of goods or service £ _____

Amount of cash required £ _____

Repayment period required in months _____

Average net monthly take-home pay (i.e. after deduction of Income Tax, N.H.I. Contributions, etc.) £ _____ monthly

Any other income £ _____ monthly

Please submit your latest P.60 or other annual advice or at least two monthly/weekly pay slips.

Mortgage payments/Rent £ _____ monthly

Credit payments £ _____ monthly

Any other regular payments £ _____ monthly

Give details _____

I/we submit this proposal to you for a loan of £.....and I/we warrant the accuracy of the replies. You may make all enquiries necessary to enable you to consider this application and from time to time disclose to the National Credit Register details in respect of this transaction excluding any information relating to income. If you need to clarify any information, in the application form, or obtain my agreement to the amendment of any documents, please regard this as a formal request to visit me at my home. It is understood that you reserve the right to decline this application without stating a reason. Membership of the Automobile Association or a previous or current account with Mercantile Credit do not of themselves ensure acceptance.

SIGNATURE _____ DATE _____

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912



ered,' says Dobbs. 'At the end of the day, the inventor is shown the result of any experiments. To date, however, none have been successful. The reasons are many: some apparently good ideas damage the vehicle in practice; others have proved either too costly or impractical, and several have failed to meet their objectives.'

'But I'm convinced that the day will come when somebody will dream up The Big One. When that happens, its creator will get the full backing of GM. No doubt, it will make him a rich man.'

So, carry on doodling.

Wheeler-dealers

STUNG BY THE record 50,400 complaints levelled against car dealers last year, the Office of Fair Trading's director-general, Gordon Borrie, has told dealers to comply with their voluntary code of practice — or face the consequences.

But what if the rogue garages fail to comply more-fully, taking as much heed of this warning as they have of others? Says Borrie: 'Unless we can demonstrate that self-regulation works, legislative controls — particularly for used

cars — may well become the only sensible alternative.'

What kind of controls has he in mind? 'The compulsory fitting to cars of tamperproof odometers, the obligatory handing-over of pre-delivery inspection checklists to customers, and comprehensive guarantees that would also have to spell out items *not* covered.'

These measures certainly should put an end to 'clocking' scandals, the PDI arguments, and the warranty squabbles — *when* they become more substantial than a mere threat.

Swedish star system

SAAB-SCANIA has developed a new fuel system that allows petrol engines to run on any fuel between 91 and 99 octane without adjustment or risk of damage.

The gadgetry, comprising sensors in the engine block and intake manifold, a black box and a special solenoid valve, enables the engine to think for itself, adjusting to the variations in octane from one country's fuel to another.

Planned to go into production early next year, the system is also claimed to improve fuel consumption by up to 8% and boost acceleration by up to 20%.



TALBOT'S HATCHBACK Alpine may have the versatility of a folding rear seat but, according to the company's assistant managing-director, Filmer Paradise, twice as many buyers will be spending their money on the new, booted version.

It's called the Talbot Solara — a new Ford Cortina rival that's seeking a share of the lucrative company-car market. And, to compensate for having no engine bigger than 1.6litre, Talbot is providing a second-to-none list of options.

Features such as electric window winders, the Talbot trip computer, automatic cruise control and power steering are offered to woo the executive who knows that litres aren't everything.

In all, seven versions of the Solara will be offered in the UK, with a choice of 1.3- or 1.6litre engines, three transmissions and four trims.

High in the Swiss Alps, DRIVE tested two top models — the 1.6 GLS (£5612 on the road) and the 1.6 SX automatic (£6500 on the road), and they ought to make Talbot dealers jump for joy. The extra goodies are sure to help the car to sell in the showroom, and Solaras don't disappoint on the road, either. The ride is soft, in the French tradition, but handling hasn't been compromised in the process. Power steering (£273 extra on the GLS) is well-weighted, and a day at the wheel left the most-sensitive back among DRIVE's car testers unscathed . . .

What more could we ask? Well, in Spring sunshine the ventilation system was beaten unless the car was being driven at motorway speeds. And if all the cruise controls are like the one we tried, Talbot has quite a problem. At low speeds the device played hunt-the-setting, switching the accelerator on and off in stomach-churning fashion. It was much better at 70mph, but still couldn't do the job as well as the driver.

If a boot is something you regard as desirable, and you have the faith to believe that front-wheel-drive is here to stay, then the Talbot Solara has to go on your short list. It's half British, and it isn't half good.

Colour prejudice

RED IS CURRENTLY the most popular car colour — but why? Well, according to Vauxhall's market research, some women regard red as a symbol of virility, which makes the colour the popular choice of men.

Read what you like into the findings that, in the higher-priced sector of the market, red loses its popularity to blue, and that many women drivers prefer their own cars to be white . . .

Vauxhall says that the great fashion houses in Europe have a marked influence on motorists' choice of car colours: 'Fashion colours promoted by the famous haute couture houses tend to become popular on cars after a year or two,' says the survey. 'That's why, in recent years, there's been a swing to lighter car colours, including earthy tones of brown, red and yellow.'

Clunk-clique

DO YOU owe your life to the wearing of a seatbelt? If you do, you qualify for membership of a new, exclusive group: the National Seat Belt Survivors Club.

Run by the Royal Society for

the Prevention of Accidents, it's the latest idea to encourage more motorists to 'Clunk-click every trip'. Says RoSPA's road safety director, Mike Read: 'Thousands of people involved in road accidents are alive today only because they were wearing their seatbelt. This is a way to mark the fact, and so encourage others to get into the habit.'

Members will receive special certificates and lapel badges, and it is hoped that they will form themselves into regional groups and launch local seatbelt-wearing campaigns. RoSPA estimates that 1000 people die and 10,000 are seriously injured every year through not wearing restraints.

Membership applications should be addressed to RoSPA, Cannon House, The Priory Queensway, Birmingham.

Strap more children

ONE WONDER why it has taken Austin-Morris so long to equip its current Princess 2 and Allegro 3 saloons with special rear anchorages to simplify owner-installation of children's safety restraints. After all, the Allegro and Princess have been around



SPOTTED IN FRANCE recently was this economy-sized runabout, a prototype being hawked around the country in the hope of finding interested dealers. Called the Capucine, this *petit voiture* has a 150cc two-stroke petrol engine, two bucket seats, two forward gears plus reverse, and independent suspension all round. Designed to squeeze under French laws on taxation and licensing, the Capucine can be driven there by anyone from the age of 14 upwards with just the minimum insurance.

Offering DRIVE the British franchise, inventor and designer M Willot said he saw a future for Capucine throughout Europe. Declining *avec regrets*, we learnt that this 5½ft long, plastic-bodied gadabout has a claimed fuel consumption of 94mpg and a top speed of about 25mph. It can be fitted with hand controls for the handicapped and a set of very low gears for mountainous regions. And the price? Even the most altruistic dealer would have to mark-up the Capucine to around £2500.

for seven and five years respectively, yet it is only now that these cars are being offered with the facility.

Whether this welcome move will encourage more parents to fit child restraints remains to be seen, however. In 1978, the latest year for which figures are available, more than 6000 under-nines were killed and seriously injured in cars. Yet Kangol Magnet, a leading manufacturer of children's in-car safety systems recently held a survey in which less than 50% of the parents asked regularly strapped their children safely in.

Britax, meanwhile, has recently launched a special car seat for handicapped children. It is claimed to cater for a variety of weights, sizes, and capabilities of neck and limb control.

Civil services

IT WAS 20 years ago that the first of Britain's motorway service areas opened for business, beside the M1 at Newport Pagnell. Today, there are 38 — and most, if not all, have been targets of much criticism and abuse.

But not for much longer. Soon, they will be almost unrecognisable from the establishments that motorists love to hate. Some could even become community leisure centres as well, and it's all thanks to a relaxation of government involvement.

Until now, a large slice of the service area operator's income was creamed-off by the Transport Department as a condition of the franchise agreements. But Transport Minister Norman Fowler has acknowledged that this has meant high prices for the travelling public, and has now stopped this profit-taking.

Operators can instead take up 125-year leases on the sites at peppercorn rents, and erect posters and advance signs on the approach to service areas — a valuable concession, says Dennis

Hearn, chairman of the Motorways Service Areas Operators' Committee. 'Business cannot be competitive unless it advertises,' he explains. 'Hitherto, our firms haven't been allowed to display petrol prices.'

'There will be a lot of new investment in the next three years, and motorists can expect many changes. It wouldn't surprise me if service areas also became bus changeover points, and special outdoor amusement parks for children could become commonplace. There could even be cinemas.'

'Banks, hairdressing salons, motor hotels, swimming pools, indoor sports halls, and restaurants serving Indian and Chinese meals are other possibilities. I can certainly see the day when people living nearby will go to their local service area just for a special evening out.'

Motorway service areas may well be graded, too, just like hotels. The AA is having discussions with the Transport Department on setting-up a rating system.

Trust the Italians

THE MOST RELIABLE car sold in W Germany is the Fiat 132, according to the Allgemeiner Deutscher Automobil-Club, the country's leading motoring organisation.

In its magazine *Motorwelt*, ADAC detailed the results of an exhaustive study into car reliability over a 12,000 mile period. The service records of almost one million vehicles were studied for the 1979 survey, and a sample of 1000 132s were monitored from new.

Championship golf

RECORD SALES have been announced by Volkswagen for the first quarter of 1980. Its world-wide sales in the first three months were up 3.4% on 1979 to 655,845 vehicles.

And the Golf is possibly the fastest-selling car on the market

today, with 3.5 million sold since its introduction in 1975. In 1979 it overtook Toyota's Corolla as the world's most-produced car, with an annual production of 834,000 against 670,000 for the Corolla.

Production of the Golf is running at a record 4550 every working day, and VW still can't meet the demand. In Britain, 88,000 Golfs have been sold so far, and for 1980 sales are expected to top 25,000, including the booted Jetta version.

Roads information

GT BRITAIN

Numbers in parentheses refer to maps in the 1980-1981 AA *Member's Handbook*.

Motorways open

M8 Monkland motorway, Glasgow (B7053-M73), 3 miles (48).

Major roads open

Bangor on Dee bypass A525, 1 mile (23); Wareham bypass A351 (stage 1), 1 mile (8); Aylsham bypass A140, 4 miles (29); Swallowfield bypass A33, 4 miles (9).

OVERSEAS

Austria Arlberg Tunnel's special summer concession of single ticket use for return journeys withdrawn. Toll charge is S120 for car with or without caravan.

France Autoroute F11, Le Mans-Rennes: first 39km between Le Mans and Thorigné-en-Charnie (near Vaiges) now open. Toll charges are F10 for car, F15 for car with caravan. Autoroute A71,

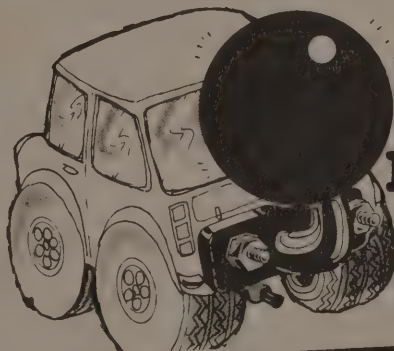
Orléans western bypass, now open from Orléans West to Olivet/la Source, linking Autoroute A10 to the N20, south of Orléans. Toll charges are F2 for car, or F3 for car with caravan. Autoroute B31 extended by 6.5km between Uckange and Knutange, bypassing Hayange. French summer holidays can cause heavy congestion on many roads, particularly on 5, 12, 25 and 26 July; 1, 2, 3, 28, 29 and 30 August; on these dates the *Information Bison Futé* service centres should be consulted to obtain information regarding traffic conditions. Worst congestion is expected on 1, 2, 3 August. France/Italy New Fréjus Tunnel (Chambéry-Turin) opens at the end of June, between Modane and Bardonnèche. Tolls expected to be similar to the Mont Blanc Tunnel's.

Netherlands Botlek Tunnel under the River Oude Maas, connecting Autosnelweg A15, Rotterdam-Europoort, now open.

Spain 17.2km section of Autopista de Navarra A15 between Pamplona and Irurzun, now open. Toll charges P50 for car, or P70 for car with caravan.

Switzerland Motorway N4 extended 6.9km from Goldau to Seewen, near Schwyz.

Yugoslavia Tolls increased on Zagreb-Karlovac E96 motorway to D25 for cars up to 1700cc, D30 for cars over 1700cc.



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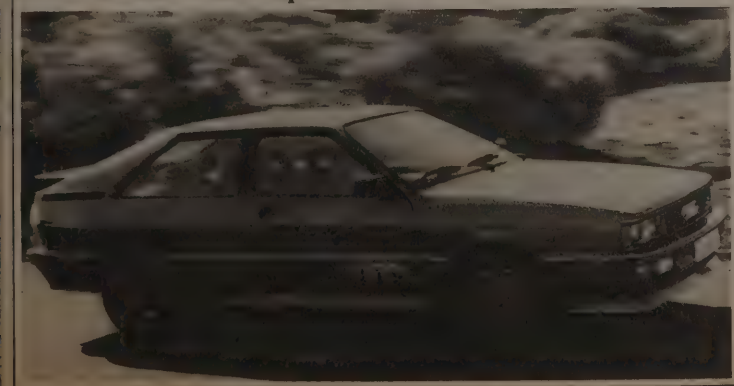
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The Quattro is claimed to be a revolutionary 140mph four-seater that shatters existing standards of roadholding, safety and fuel consumption for performance cars. Powered by a 200bhp turbocharged version of Audi's 2.2litre five-cylinder engine, the Quattro muscles into the league of Ferrari and Porsche supercars.



PIONEER KE 2000



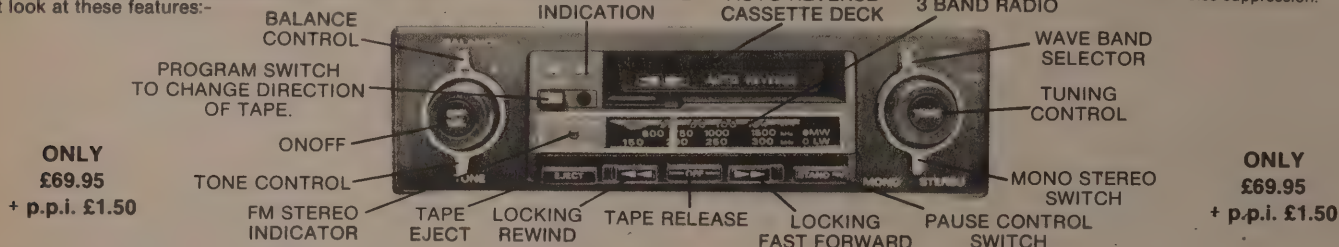
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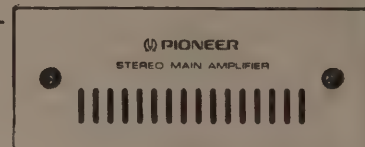
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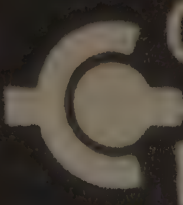
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Where can you
find Frank Sinatra,
the RPO, the
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and Janet Baker
on ICE?*

Contour

*Can you keep quiet — I'm listening to the car radio

IT WAS AN electronic wave from the Orient that washed a stereo set, a transistor radio and/or a tape player into practically every home in the Western world, submerging whole segments of American and European industry. And that was only the first wave: the second wave from beyond the Bamboo Curtain invaded the car in a fresh bonanza of micro-electronics and stunningly sophisticated design. Today, Japan, Korea, Taiwan and Hong Kong are sweeping the market in ICE — acronym for in-car entertainment.

ICE sales top £30-40million a year in Britain alone, and as the integrated circuit — forbear of the

silicon chip — usurps the transistor, there seem to be few limits to the technology that can be combined into a unit that will fit into a car fascia. Whether you want to tap your toes in a traffic jam or cruise to the simulated-sound of the RPO in concert, there's a set to fit that slot in the fascia.

The ICE industry's conservative estimate is that Oriental suppliers are close to taking 75% of the market, leaving a quarter to be fought over by a clutch of European firms, many of whom are chasing specialist requirements. While both Philips and Blaupunkt (Bosch) have relatively cheap sets in their ranges, they are seen to be in pursuit of excellence at a

price. Radiomobile, Britain's major contender, is strong on the mediocrity of long- and medium-wave pushbutton sets, much loved by the increasing number of car manufacturers fitting ICE as standard. Voxson, Italy's entrant, sneaks in with the benefit of extractability — beautifully designed and sophisticated sets that beat the thief (see later).

Can Europe compete successfully against the Orient? 'With great difficulty,' replies a spokesman for Radiomobile. 'As a major retail and original equipment manufacturer, we have to concentrate on the highest-selling original-equipment manufacturer. We have had to concentrate

on the highest-volume sector — the pushbutton radio. But we have to make some to the sizes that British car manufacturers have allowed for in the fascia. These are the old, Imperial dimensions, rather than the compact DIN75 500 standard size to which many other European sets and some Eastern sets are made.'

That we are still in there fighting does, however, say something for European industry: Far Eastern radios annihilated the whole of the US industry some 20 years ago and stunned Europeans into a commercial coma. In the American market, almost without competition, the Oriental moguls quickly learned the lessons of

miniaturising FM (VHF) radio and tape-playing systems — and with cheap labour, too. So they had the dual advantages of experience and price as Europe's ICE sales developed.

The Orient has not always had the technical edge (the cassette-tape system, as opposed to the obsolete cartridge, is essentially European), but it has always had the price advantage. And, as sets become more sophisticated — silicon-chip micro-processors to facilitate tuning, digital tuning displays and HiFi refinements such as the graphic equaliser and boost amplifier are coming in fast — it is that ability to assemble to a keen price and command volume sales that keeps the Far East comfortably in control.

This commanding lead is what British manufacturers fear most in what is to be the next great boom in car radio — the advent of legal Citizens Band or Open Channel two-way car-to-car communication. The Home Secretary has clarified the fact that British motorists eventually will be able to participate, like Europe and America, but one of the strongest lobbies for delay is Britain's radio industry itself. Plainly, if CB arrived tomorrow, structured like the US system, the British industry would be caught on yet another hop.

While warmly welcoming the chance to pitch into this new sales

bonanza, British radio makers are clawing at every possibility to keep out the flood of foreign sets. They want a two-year delay after all the technical details of the Open Channel have been sorted out, to allow them to design sets for the market. And, most of all, they want rigorous design standards laid down that would exclude all the present CB sets from Home Office approval.

Major technical contention to be ironed out is the choice of waveband. The 27-28 megahertz (mHz) waveband used in the States and some other countries is implicated in interfering with air-to-ground radio links and television reception and is at present allocated in Britain to model air-

craft control and hospital paging systems. Britain's Home Secretary has already said it will not be used for CB.

Surprisingly, perhaps, it is the British companies who are already into two-way communications — Motorola, Aircall, Pye and Stenor — who see least threat from the Open Channel. In fact, some believe there's too much idle chat already on the airwaves used by the police, taxis and so on. CB would clear the air for the more-serious demands of their industry. And, besides, if the Home Office insists on the kind of technical standards for which British telecommunications is renowned, it is these companies that have the testing, mainte-

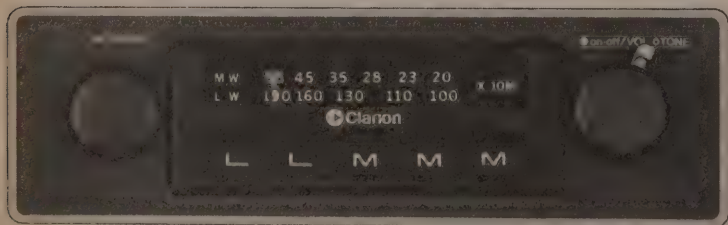
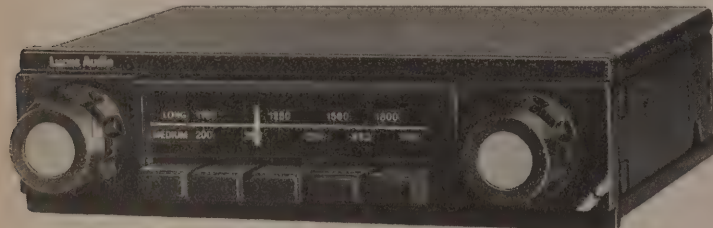
nance and certification work shops already existing across the country.

What few British drivers may not realise is that CB is already with us. The Post Office estimates that something between 30,000 and 70,000 unlicensed two-way radios are on the air in Britain, and prosecutions are hitting the 1000-a-year mark.

Flavour of the future, with a ironic touch, is the tale of Chesterfield, Derbyshire, CB fanatic Les Ashmore. He chased a gang that had stolen a mate's van, pulling his CB club into the hunt. Mr Ashmore and friends trapped the thieves by radio communication, receiving the thanks of the police — and a fine of £425 for illegal possession of a CB set!

Put your money where your speaker is

THERE'S A GOLDEN rule to buying ICE equipment that applies to many other markets: you get what you pay for. Buy a £10 mono radio set (long-wave and medium-wave, speakers extra), and you might just be able to distinguish Terry Wogan's brogue when the car's stationary and the engine's off; and a £20 tape player will ea-



In the beginning, there is . . . the radio, plain and simple. You get two wavebands — long and medium — five stations at the push of appropriate buttons and, if you want any more, you have to twiddle the knobs or whistle. From the top: Lucas traditional — £44.85-worth of Audio LS130; the £35-approx Hacker CR2 from Motorradio; and Clarion's basic two-band from a range that runs all the way to . . . well, see the bottom of page 19.



Package deal — Duco's £42.95 box contains the basic long-wave medium-wave pushbutton radio, speaker — you need only one, of course — and all the fittings.

. . . and then it begins to get complicated: you want to play cassettes? Lucas' LS211 for £74.75 can be connected to an existing radio via the LS408 adaptor — another £6.72 — or simply fitted under the fascia and used on its own. The automatic-reverse facility cuts out the distraction of having to turn the tapes

Insist on Sharp.

Feature for feature, pound for pound, they're unbeatable!



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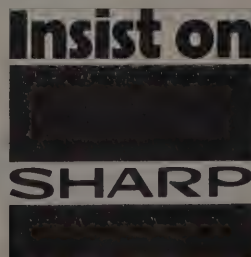
Take a close look at the Sharp range and you'll find a host of features, like powerful output, A.N.S.S. noise reduction and the unique A.P.S.S. searcher that finds your favourite track at the touch of a button.

Then compare these features, pound for pound

with the others and you'll quickly discover that Sharp are, quite simply, the best value around.

And when you choose a Sharp unit you can be sure you're buying the best in terms of quality and reliability, because it's been made by the people who know just about all there is to know about audio technology.

So there are lots of very sound reasons why it's well worthwhile looking for—and listening to—Sharp In-Car radios and radio cassettes.



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TS-107 Dual cone speaker.

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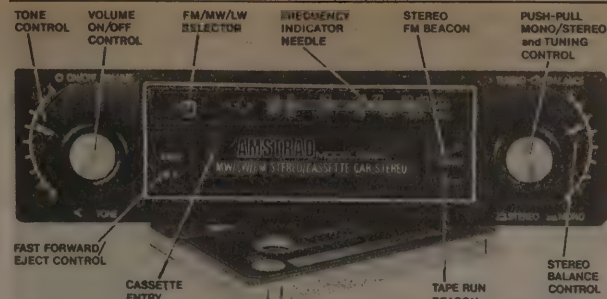
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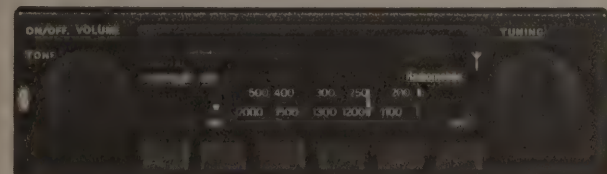
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*PJ Evans, 81-91 John Bright St.
BOLTON. M. Bell Electronics, 1 Daffodil Rd., Farnworth.
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CARLISLE. Rickerby Ltd., Currock Rd.
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CASTLEFORD. Eric Wiley, 64 Beancroft Rd.
CHELMSFORD. Molson Distributors, 61 Broomfield Rd.
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DINNINTON. Motor Sounds, 91b Laughton Rd.
DONCASTER. Autosound Services, Car House Rd.
DONCASTER. Autosound Services, Car House Rd.
DRIFFIELD. F. E. & J. Thompson, 18 Market Place.
DUDLEY. F. H. Jennings, Ciderbank, Netherton.
*Studio Musica, 1 The Trident Centre.
DUNDEE. Express Ignition, 49-51 Queen St., Broughty Ferry.
EDINBURGH. Eastern Car Radio Ltd., Costorphine Rd.
Geo. Thomson, Rodney St.
EGHAM. Thames Car Radio, 158 High St.
GAINSBOROUGH. Johnsons Ltd.
GLASGOW. Motorsound Ltd., Lockleven Rd.
GLOUCESTER. Moons, Shell Show House, Eastern Ave.
GIMSBY. C. H. Turner, 1/5 Corporation Rd.
GUILDFORD. Norman Richardson, Walnut Tree Close.
HADLEIGH. Molson Distributors, 313 London Rd.
HASTINGS. In Car Radio, 117 Sedlescombe Rd. Nth.,
St. Leonards.
HAZEL GROVE. Car Home Stereo, 219 London Rd.
HIGH WYCOMBE. Motolec, Desborough Rd.
HILLINGDON. S.K. Radio, 3 New Broadway.
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LINCOLN. Eastern Tapes Ltd., 173 Burton Rd.
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SALE. Car Radio Centre, 183 Washway Rd.
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Wadham Stringer, Waverly Rd.
STAFFORD. G. T. Autos, Drummmond Rd.
STRETFORD. Autosound Services, 708 Chester Rd.
STOCKPORT. T.S.A. Car Radio, 33 Greek St.
Specialized Equipment Ltd., 341 Wellington Rd. Nth.
STOCKTON. British Engines Ltd., Portrack Lane.
SUNDERLAND. Auto Save, 11 Windsor Terrace, G'town.
TAUNTON. H.N. Hickley Ltd., Castle St., Tangier.
VIRGINIA WATER. Wentworth Car Radio, 409 Stroud Rd.
WATFORD. Auto Sound Services, 80 Queens Rd.
WELWYN GARDEN CITY. Inca Car Audio.
Woodhall Shopping Centre.
WEYBRIDGE. Thames Car Radio, Westfield New Haw.
WIRRAL. Wirral Car Radio, 2 Bermuda Rd., Moreton.
WOKING. S.K. Radio, 45 Chobham Rd.
WOLVERHAMPTON. Charles Clarke, Clifton St.
WORCESTER. Mobile Electrics Ltd., Gregory's Mill St.
YORK. Autosound Services, Toft Green.
F & S. Motor Accessories Ltd., 148 Micklegate.

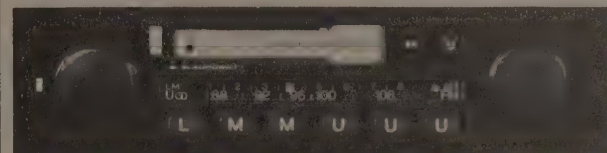
IN-CAR ENTERTAINMENT



The naming of parts, Amstrad-style: the model 9060 shows most of the desirable features in a radiocassette combination unit for a £73.18 price. Pushbutton tuning would be nice, though . . .



A Dolby System cuts background hiss from tapes — very desirable on a car player, and ICE makers are rushing to fit to top models, such as this Radiomobile 420 . . . which lacks only VHF.



Not much missing from the £172.39 Coburg — middle of up-market W German maker Blaupunkt's range — a European-sized VHF medium-wave radio and tape player with automatic interference suppression and filters to sharpen station selection. Top of the range? That's the Berlin, with controls on a stalk for fingertip selection, tape recorder and player . . . and a near-£800 price.



Major European maker Philips casts a wide net to catch everyone who wants a noise in the car. Shown here are the cheap AN192 manual-tune radio for about £20; the push-button convenience of the AN381 for an extra five or so; the 'six-shooter' AN391 for around £32; and the AC060 add-on cassette player — about £63. But spend up to £450, and you can have complete HiFi sound.

tapes faster than your Moulinex. So try to afford the best-possible set in the category of ICE equipment that you would like.

So what is available? Cheapest sets of all are the long- and medium-wave manually-tuned, monaural radios that have been standard on many cars over the last 10 years. A distinct improvement is to buy a push-button set, allowing you easy selection of up to six stations while on the move; budget for about £25 to get reasonable reception. On top of this, you will pay from £2.50 for an aerial and around £3 for a speaker (although most mono sets do come equipped with one).

The next step up is a radio with VHF (FM) reception. The BBC has now tacitly admitted that it underestimated the extent to which FM programmes would be received in cars. BBC VHF signals are mainly polarised in the horizontal plane whereas the majority of car aerials are vertical, and this badly affects reception. While the BBC is now modifying transmitters to overcome this problem, the IBA has always seen the potential for VHF ICE, and transmitted signals in circular polarisation, suitable for aerials at any angle.

The BBC, too, has only Radio 2 and 3 transmissions in stereo whereas all IBA transmitters are stereophonic. So, if you buy a VHF set, it is worth making the extra outlay on a stereo set only if you enjoy — and can receive — the kind of programmes transmitted by stereo stations. In some areas, there are no BBC stereo transmitters (or IBA stations); outside a 15-30-mile radius from a transmitter, it is impossible to get a good VHF reception; and most mountain and hill areas don't get VHF signals at all.

Still saying yes to VHF? Then spend at least £30 for mono reception and a little bit more for stereo. Twin speakers will be £6-£15 on top.

If you already have a radio and want to play pre-recorded or home-recorded tape cassettes (remember, to record at home you need a Mechanical Copyright Protection Society licence — £1.73), spend at least £30 on a stereo tape player.

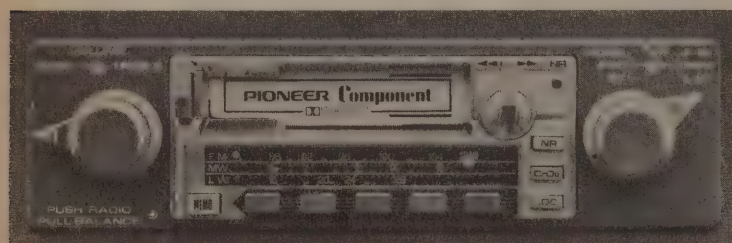
The highest-value units in the ICE market are the so-called combination sets — long- and medium-wave and VHF radio (usually stereo, but occasionally mono only) with a cassette player. Prices start at around £55 and, from there on, the sky is the limit; £500-plus sets have made their appearance.

If this is your market, what are the best features to look for?

On the radio, try to buy a set with automatic interference suppression: it won't cut out all the whines, but it will improve on the



Shake your fillings with the 60w-per-channel power of the Pioneer GM120 amplifier — overkill in a car, perhaps, but certainly a swinging addition to the potential of a motor-caravan or a minibus system. The price about £113.85.



HiFi can, however, be recognisably radio-shaped, and Pioneer, from Japan, gives top value. Model KEX23 features Dolby tape player, vhf/medium-long-wave radio and pre-amp. Controls fiddly but, at £264.50, one can't complain.

job of suppressing the car's normal interference. A cutout switch to kill stereo separation and get rid of the hiss accompanying poor stereo reception is useful, and pushbutton station selection is essential. More-expensive sets are self-seeking (they automatically stay tuned to the strongest signal) and circuits to quell the harsh noises of the weak stations heard while you are tuning to a strong station.

On the tape player, the basic facilities will be a fast-forward wind and a stop/eject button. Expensive sets will have either automatic reverse (you don't need to turn the tape over) or a fast-reverse wind. A good feature that is available on cheaper sets is automatic ejection of the cassette when the tape is finished. Look, too, for clearly marked controls — the larger the better: fiddling around with some sets while on the move needs tiny fingers and creates considerable distraction. Tape players usually cope adequately with up to C-90 length cassettes (45min per side), but don't entrust longer tapes to them.

The best sets of all types are designed to the DIN75 500 standard size of up to 180mm wide by 45mm high and 175mm deep, which will fit the fascia apertures of most European, some British and a few Japanese cars. On some older British models, and some Japanese cars, there will be

slightly larger or smaller apertures, and you may have to search for a set that will fit the hole, or buy an adaptor kit (perhaps a centre-console unit), or consider fitting a set under the fascia.

The majority of sets sold today are negative polarity, for cars with negative-earth battery connections. A few older cars have positive polarity, and DRIVE can find no positive-polarity sets on the market. If you're a positive-polarity driver, you'll most likely have to settle for one of the cheaper dual-polarity sets, none of which offer really good-quality sound performance.

Well-connected and wired for sound

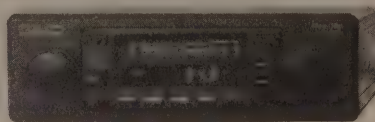
ICE dealers will usually fit sets bought from them free of charge — the cost of fitting your own set to a car is £10-£30, depending on the car and the radio's complexity and the number of additional parts required. However, most drivers with a little DIY experience can make a success of the job themselves.

DIY installation begins with plumbing in the aerial. The best site on a front-engined car is at the rear, away from the interference



As in home HiFi, it's separates that are sweeping the stereo market. Motorola's graphic equaliser and booster amplifier gives a car-manageable 15w per channel, with boost selection across five frequency bands, for a price of around £65.

Sanyo's FT440M Digital cassette stereo does everything but drive the car. As well as a digital display tuner that can also be controlled from a handy fascia button, the tuning display doubles as the clockface. Price, £289.

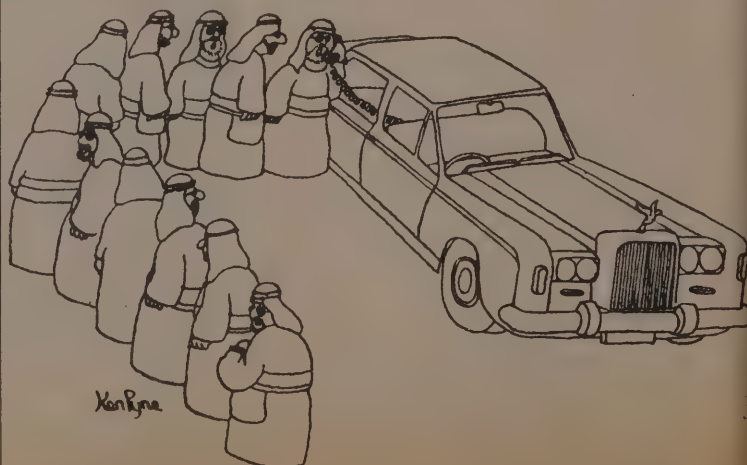


of the engine, but you will need an aerial extension cable. Shapely hatchback rears may have no convenient aerial site, although there are hi-lift aerial types for steeply angled bodywork. The alternative site is on the nearside front wing as far away as possible from the wheel's steering and suspension travel.

A hole-cutter is the best tool for cutting through the bodywork, but you can drill a ring of small holes and tidy up the edge with a rat-tail file. Protect surrounding paintwork with a layer or two of masking tape. Clean the underside of the hole down to bare metal (petrol dissolves away many sealant materials) with

coarse emery paper. After fitting the aerial, retouch any areas of bare metal left showing underneath with sealant. You may need to drill a special hole through the side of the passenger footwell into the wing to take the aerial cable (and power leads, if it is an electric type), plus the sealing grommet, but careful probing may reveal the existence of a hole ready-drilled.

Choose a site for the speakers. Least damage is caused by using pod speakers on the rear parcels shelf, but these don't always give the best sound reproduction. A good site is high in the door-trim panels, in such a place that the winder mechanism and glass



don't foul the speaker magnet. Again, you may find speaker holes ready under the trim panels. A single monaural speaker may fit into a position on the fascia or rear parcels shelf designed by the car manufacturer. Lead the speaker wires over the gap between door and frame using a special grommetted tube that prevents trapping and kinking. Most modern cars have existing holes suitable for making electrical connections to the doors.

The site of the set may already have been chosen for you. Most car makers now leave a DIN-size aperture for ICE equipment somewhere on the fascia or centre console: you simply have to remove a trim panel. If you do cut the trim, remove the minimum possible material: better too little than too much. And you may need to make or buy some small brackets to clamp the set in the hole you have cut.

Make all the electrical connections before fitting the set. You can power it from the car's fuse box, which has the advantage that the set can run when the ignition is off; but it also means that the set might be left on and flatten the car battery. Handiest and best power source is from the ignition switch's accessory terminals. There should be a 2amp in-line fuse in the power lead and a radio-frequency choke to aid suppression. It is essential to make a good earth connection to the car bodywork, which will supplement the earthing connection of the set's rear clamp or bracket. Connect up all the wires, fix the set in place in the aperture and tidy up all the wiring, securing it in place with adhesive tape as far away as possible from the car's main wiring loom.

The final fitting task is to adjust the aerial trimmer while the radio is tuned to a weak medium-wave station around 200 metres (1600kHz).

And this is where the fun starts: you may now have the job of suppressing the whines and crackles of interference. A high-pitched whine varying with engine speed is from the alternator or dynamo; crackles that vary with engine speed are from the ignition system. A kit of capacitors and resistive sparkplug caps to cure these two annoyances can be bought at most car-spares shops. Other common ills are caused by poor aerial earthing (check that the aerial mount contacts bare body metal); interference from the voltage stabiliser (a tick at ½sec intervals) can be cured by resiting the unit, earthing the car or using radio-frequency chokes on each lead to the stabiliser; and a whirr from the wiper motor — earth the wiper-motor body with a thick lead to the car body, or use a choke on every wire connected to the motor.

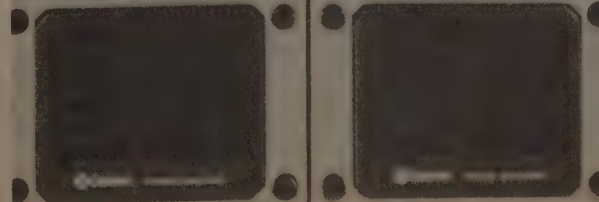
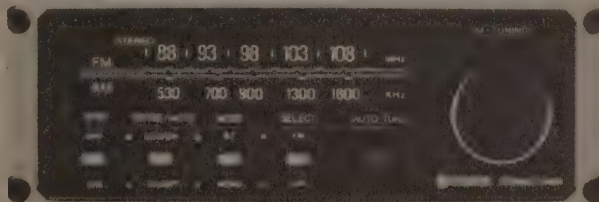
(continued)



Amstrad, too, can blow your mind with a booster amplifier. Shown here are the 30w and 50w versions. Frankly, the CH50 with graphic equaliser (£64.70) would rattle loose the car trim, but the more-modest CH30 at £41.81 will win the battle with most engines.



No matter how good your radio, tiny speakers mean poor bass-note reproduction. Lucas adds growl with £21.85 Third Dimension — an extra amplifier and speaker compatible with all sets.

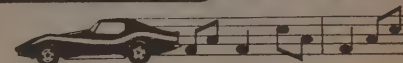


You can take it from the top, with a racked set of Clarion separates to rival the sound in the best of HiFi homes. Fit the set in your car or motor-caravan (if you have room).

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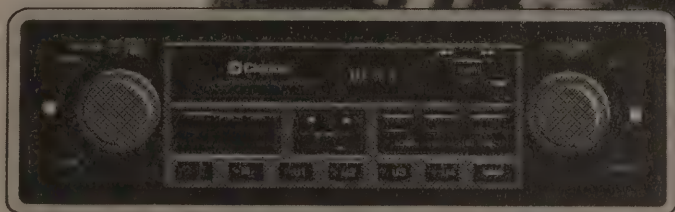
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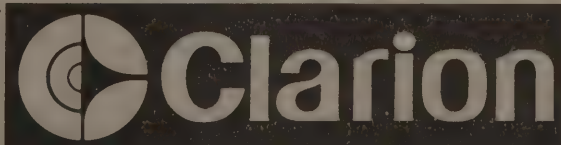
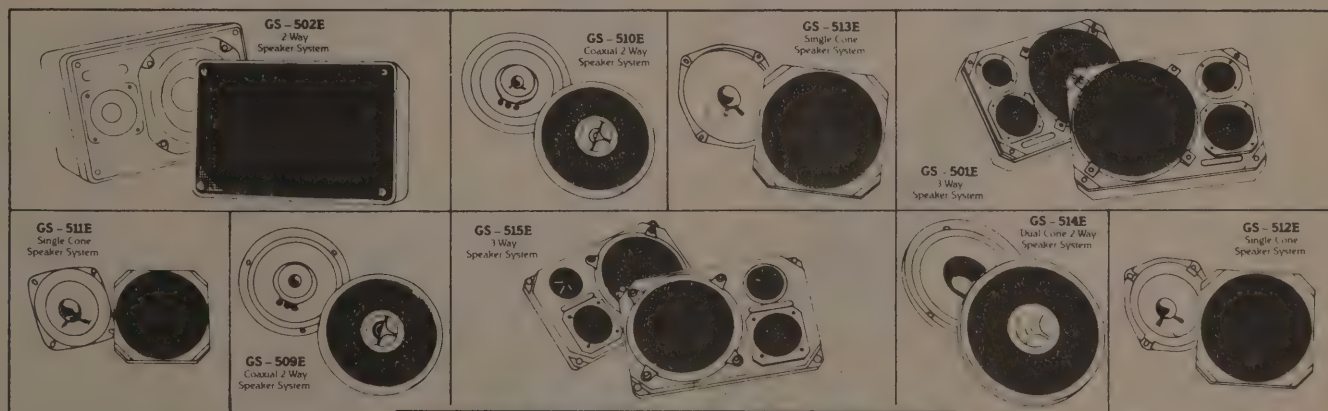
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The classical lines are there for all to admire... so, too, is the breeding. The Clarion PE 957 comes from a long line of thoroughbreds. Its powerful chassis represents the latest thinking in in-car stereo technology. It features an auto-reverse cassette stereo player with MW/LW/FM stereo electronic tuner, synthesised ultra fine tuning, signal actuated stereo control, CZI noise prevention, F.F./Rew. lock and eject, digital quartz clock and memory... and one of the world's slimmest cassette mechanisms with auto-reverse. With a choice of the finest in-car speakers, Clarion gives you a clarity and richness of sound equal to home-based hi-fi.



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radio extractable consists of a housing into which the set is built and a tray installed in the fascia. When the unit is slotted into the tray, a seven-pin plug mates to activate the set.

DRIVE has tested the £12 kit, encapsulating a Blaupunkt combination unit in the Autosonik Transdin 170 housing. DIY installers might find some difficulties in using it: on this Blaupunkt, at least, the set's aerial connection needs considerable modification. The result is, however, very neat and worthwhile to protect what could be some £200-worth of equipment.

How far does your insurance cover stretch if you do have a theft of ICE equipment? Some insurers may not entertain a claim on a stolen radio or tape player at all, if a realistic value has not been placed on it and incorporated into the value of the car on the proposal form. However, the majority of insurance companies will cover ICE equipment, treating it as a fixed part of the car if it is specified in your initial policy application.

If you have an extractable set, the value of which would not be covered by any provision to insure personal effects in the car (usually only £50), you should consider adding the ICE equipment to the all-risks schedule of your household-contents policy,

or asking a broker to quote for insurance of the equipment as a separate entity. This last course, however, can be very expensive: a premium quoted to DRIVE was a minimum of £25 a year. If the set is insured on your car policy, compensation for its theft would be subject to the payment of any excess to which you have agreed, and a claim would affect your no-claims discount.

Sounds great — but does it do you good?

ONE POSITIVE development in motoring over the last decade has been the tremendous improvement in radio traffic reporting. Many drivers who regularly listen to the car radio know the minor bliss of avoiding a jam thanks to a timely warning between the records.

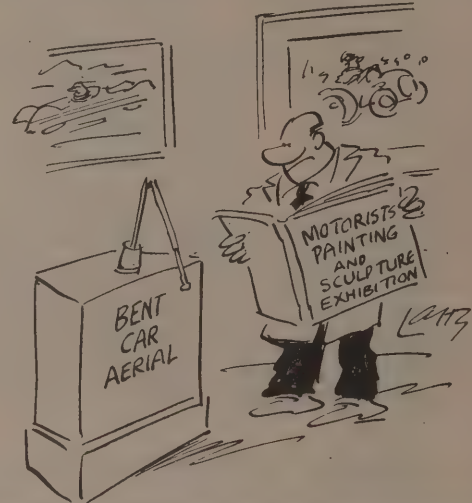
On the BBC's national channels, which rely on incident reporting through a network of liaison that should have an arm in every police force in the country, the situation is improving considerably. But, by their very nature, the national channels can only ever report conditions affecting considerable amounts of traffic —

usually that on the motorways.

It's the radio traffic reports on local IBA and BBC stations, especially during the morning and evening peaks, that are making city motoring significantly easier. Paying attention to the regular AA, police and reporters, contributions to the 'drive-time' — what used to be called rush-hour — shows can yield rich rewards in short detours around jams.

And the biggest leap forward in traffic reporting is yet to come: the BBC's Carfax — a network of local-traffic reporting transmitters, based on the present local radio stations could be in operation by 1983. Broadcasting to a

30-mile wide area and received via a small unit in the car radio, these stations will give periodic bulletins detailing jam points to avoid or accidents that have recently occurred. The system will be able to 'break-in' on any programme (or tape) that the driver is listening to, and even broadcast over a set that is switched off. Biggest improvement of all on the present system is that police cars will carry roadside Carfax transmitters, able to send messages to drivers via central transmission unit within a short range of an accident or other incident. The message could give detour details or warnings of



The basic aerial — importer Brown Brothers' manually retractable version with key to release the anti-vandal catch; price, £3.26. Snag is, dirt can jam the lock, and sections become difficult to raise/lower unless cleaned and oiled.



Binatone's ingenious in-line aerial sensitivity booster is claimed to bring in weaker stations and prevent fade. Brief experience suggests that it amplifies any interference, too. At £4.95, it could be a good buy for vhf fringe areas.



Aerial bombardment from Binatone: the conventional telescopic aerial costs £9.50; the semi-automatic — it has a separate switch to raise or lower the antenna — is £14.95; the automatic, £19.95, goes up when the radio is switched on.

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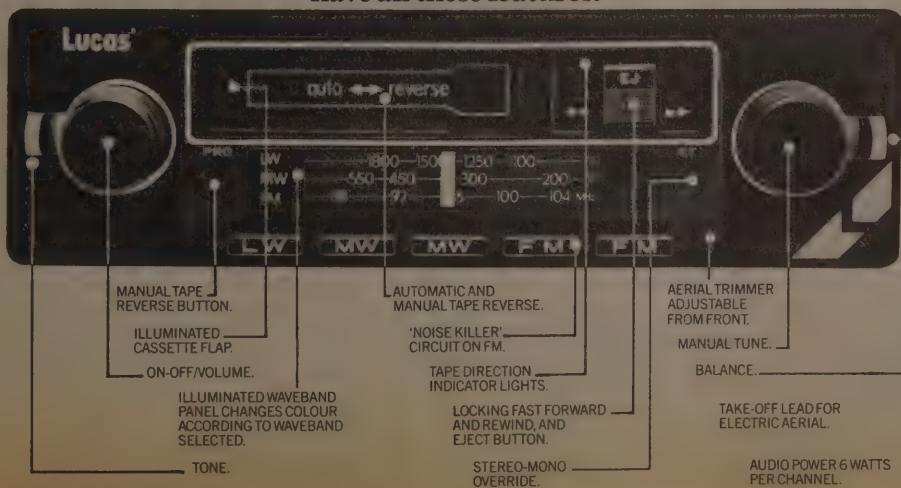
whole host of thoughtful—and highly advanced—features.

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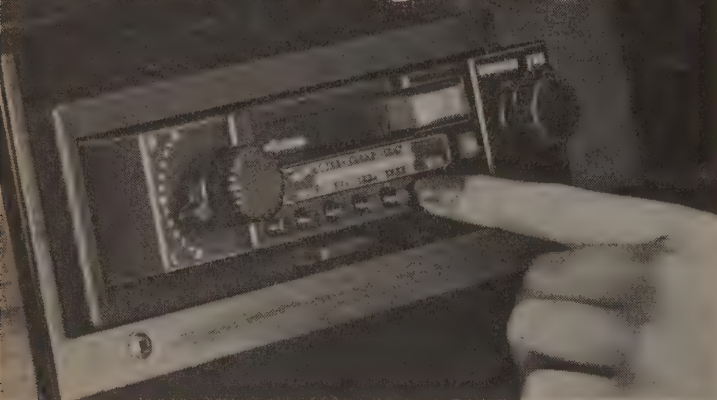
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Until now the problem with car radios has been that they only let you hear half the story. Just as you reach the gripping part the signal fades and interference takes over, especially on FM broadcasts, where reception areas rarely span more than thirty miles, often far less.

Historically, the most popular answer has been either to switch off and amuse yourself by whistling, or twiddle incessantly with the tuning button in an effort to find the programme on MW. The first solution becomes predictable; the latter is positively dangerous when you're on the move.

Now consider what the Voxson Indianapolis has to offer. In appearance it may resemble some other top quality car radios, with a choice of MW and FM Stereo wavebands. But note the eight touch buttons. And think about the micro-electronic memory inside. Together they combine to give you a unique experience — the ability to 'store' 16 different radio frequencies and recall each one instantly at the touch of one of the buttons. That's more than any other car radio currently available can do.

So as you move around the country and FM reception starts to fade, touch a button or simply switch to MW and hear the remainder of the story. When it's finished, touch another button and you'll instantly hear another station altogether.

And just in case you can find nothing of interest, we've incorporated a sophisticated stereo cassette player so that with the Voxson Indianapolis, you should never have to whistle.

The Indianapolis is one of four stunning and sophisticated radios and combined radio/cassette players from Voxson, all featuring the unique extractable mounting system, but equally suitable for conventional mounting. And if you want a simple free-tuned combined radio/cassette player, choose the Voxson Nürburgring.

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IN-CAR ENTERTAINMENT

hazardous fumes or chemicals, and the unit would be in action almost from the moment the police arrived at the scene.

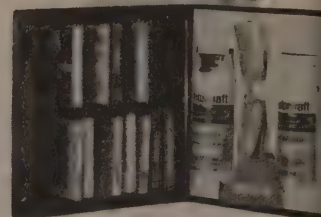
Whether or not radio programmes or tapes improve driving concentration and help motorists over the boredom peaks of motorway or traffic-jam driving is questionable. It is unfortunately becoming written into motoring lore that some noise issuing from the loudspeakers is bound to help, but there's a large school of applied psychologists who maintain that the ICE addition to the generally high noise levels of the driving environment is a positive distraction. Certainly, it is the type of programme listened to that counts.

Lowest rating of all for aids to concentration goes to broadcast discussions, chat-only shows and pre-recorded language-lesson tapes. To the alert and interested driver, the programme will be a distraction, demanding concentration on the discussion or lesson rather than on the road ahead. To the already-drowsy driver, the drone of voices becomes one more source of noise to shut out.

When it comes to selecting music to drive by, there's a disparity of views. That one man's music is another's noise holds particularly true in the car. To advocate the pace and vivacity of the *William Tell* overture as an aid to the concentration of a Pink

Floyd fan invites ridicule. Music to drive by must tread that fine line between what stimulates you, and what relaxes you without reaching the point of sleep.

High on the applied-psychologists' approved lists are those radio shows that combine the stimulus of chat and news items with a medley of all types of music — just the kind of show that both national and local radio put on in the morning- and evening-commuter slots. But it isn't the kind of programme that is put out all day by one station, so, to stay



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alert, you may have to shop around the wavebands for the proper motoring mix.

The best use of a radio or tape player is to provide you with relaxation that is in complete contrast to the sights and sounds of the road. This is the kernel of many pressure groups' objections to today's motorway service areas: few provide the opportunity to get away from the incessant beat of tyre, engine, wind and general traffic noise.

Neil Reynolds, self-styled researcher in relaxation techni-

ques, sells motorists relaxation tapes of vocal-image-conjuring messages.

He believes that more than half the battle against driving stress and fatigue is won by spending the odd 15min off the road, away from the mighty roar of the motorway. Here, in a quiet rest area or side road, you can switch to the programme or tape you most like and turn your mind away from the hypnotic flicker of white-line markings, the dazzle of lights and the mind-boggling stare into infinity. DAVID ROWLANDS



Once you start buying ICE equipment, there is, of course, no end to the extras. Ford's answer to the problem of car gloveboxes full of cassettes was a case that would hold up to 20 cassettes or even spray cans. If you were an early entry to the tape market, you may find you're stuck with an old but serviceable cartridge player. For you, Elfstone Electronics has a clever converter that slots into a normal cartridge deck but plays cassettes. It may project a little too far out of the fascia for comfort, but, at £25, it's cheaper than ditching your collection.

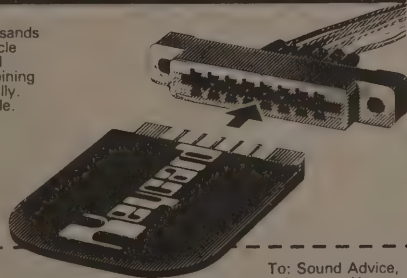
KEYCARD DEFEATS CAR THIEVES FOR £15.

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Please allow 21 days for delivery. If not completely satisfied return within 7 days for full refund. D1

Keycard

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Please tick:

- | | | |
|---|--|---|
| <input type="checkbox"/> Afrikaans | <input type="checkbox"/> Finnish | <input type="checkbox"/> Persian (Modern) |
| <input type="checkbox"/> American English | <input type="checkbox"/> French | <input type="checkbox"/> Polish |
| <input type="checkbox"/> Arabic (Modern Standard) | <input type="checkbox"/> German | <input type="checkbox"/> Portuguese |
| <input type="checkbox"/> Arabic (Algerian) | <input type="checkbox"/> Greek (Modern) | <input type="checkbox"/> Russian |
| <input type="checkbox"/> Chinese (Mandarin) | <input type="checkbox"/> Hebrew (Modern) | <input type="checkbox"/> Serbo-Croat |
| <input type="checkbox"/> Chinese (Cantonese) | <input type="checkbox"/> Hindi | <input type="checkbox"/> Spanish (Castilian) |
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To: Linguaphone Institute Ltd. (Dept. DV/25)
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Mr. Mrs. Miss _____ Age _____
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Address _____

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Worth its weight in gold

'Grace . . . space . . . pace . . .'
— a phrase that can be only Jaguar's. It's a 1950s slogan, but its near-impossible blend of virtues is still expected of the breed by today's motorists.

A generation ago it was easier to achieve. Independent Jaguar Cars Ltd made its stalwart straight-six engine when exhaust emission controls were so much hot air. Then came BLMC, BL Ltd, Jaguar-Rover-Triumph, and American exhaust legislation that managed to maim many a lead-slinging limo's performance.

Now, for the 1980s, the name is Jaguar Cars once more — but has the big cat changed its spots? Well, the near-teenage XJ body has had a second beauty treatment, the near-veteran 4.2litre engine is fortified by fuel injection, and the superior Daimler Sovereign version has obvious

Daimler 4.2 315 4.2 315
Daimler 4.2 315 4.2 315

grace and space. DRIVE went in search of its legendary pace . . .

How it goes

A much-modified version of the electronic fuel injection used on the 5.3litre XJ12 is now standard for this XJ4.2 — only the 3.4litre stays with carburettors. With other changes to the cylinder head and manifolds, power is usefully improved over that of recent, carburetted 4.2s, though it's less easy to assess how it compares with the original XJ6.

DRIVE's backnumbers revealed that the acceleration times of this new 36cwt Daimler Sovereign and the lighter, short-wheelbase Jaguar XJ6 of 10 years ago are only a cat's whisker apart. This is

not bad going, particularly as our Daimler had the optional higher-ratio final drive, which favours fuel economy at the expense of low-speed acceleration — a major drawback when compared to the BMW 735i and Rover 3500.

Our fat cat also had to contend with an automatic gearbox that is reluctant to sprint far round the tachometer. Its unwillingness to change down into ratio 1 above 25mph explains the indifferent 30-50mph time of 5.2sec; 3.5sec can be achieved by using the shift lever. Similarly, change-ups from 1-2 occur too early in D, impairing acceleration from rest, but using manual hold up to 53mph can save 1sec to 70mph.

Admittedly, this Sovereign's

regal progress does keep the automatic gear shifts smooth, and it's not difficult to use the manual over-ride, either, as the centre glovebox is a perfect fulcrum for your arm. In this price bracket, however, such intervention shouldn't be necessary, and if you opt for the manual gearbox, you'll see no reduction in price.

When the XJ series first appeared, it had cornering grip and power like no other big car before. Twelve years later, it is still a startlingly nimble heavyweight. This latest version is also better-behaved at the limit of its handling, with none of the terminal tail-swinging that demanded respect for earlier Jaguars. The steering, however, remains less than satisfying. Jaguar Cars has responded to past criticism by increasing the system's apparent weight a little, but



it still fails to give the driver true 'feel' at speed. Otherwise, the lack of driving information from the front tyres is the only impediment to this big saloon's superb cornering.

The facia exudes traditional Jaguar virtues from its six meticulously calibrated dials. The fact that their plane instrument glasses reflect as much as their polished-veneer surround will be forgiven by some, but a more-readable design might be used without offending lovers of the style. Concessions to modernity include a row of warning lamps, a wash-wipe stalk with intermittent and single-wipe settings, and large, easily found pushbutton controls on the centre console. The pedals work with a feline smoothness and progression that's spoilt only by the big step up from accelerator to brake. Real hide covers the Daimler's seats, which are so well-shaped that they compensate for the slippery leather. The driving seat's electrically powered cushion tilt, optional-extra backrest tension adjuster (set your own lumbar support), and steering reach adjustment, should enable everyone to find a good driving position.

Our Sovereign's regalia included several other expensive extras, including dial-the-temperature air-conditioning, an electric sunroof, remote-controlled door mirrors, an FM radio-cassette player and automatic cruise control. With all these gadgets to play with, Daimler driving is never boring.

How comfortable

Series III cars are more-extensively restyled than a casual glance might suggest. In fact, the only body panels retained are the floorpan, bonnet and boot. The graceful outline survives, but the roof has been raised, the windscreen raked more steeply, and side windows made deeper. Nevertheless, one still needs more agility than German rivals require to get in and out, for the

HOW GOOD

At-a-glance

DRIVE's verdict on the Daimler Sovereign SIII 4.2 auto, taking into consideration its rivals, its price and what kind of car it's *meant* to be

Out of 10

PERFORMANCE

●●●●●●○○○○

FUEL ECONOMY

●●●●○○○○○○

HANDLING/STEERING

●●●●●●○○○○

COMFORT/REFINEMENT

●●●●●●●●○○

INTERIOR SPACE

●●●●●●●●○○

PASSENGER AIDS

●●●●●●○○○○

DRIVER AIDS

●●●●●○○○○○

ACCIDENT/INJURY SAFEGUARDS

●●●●●●○○○○

RUST RESISTANCE

●●○○○○○○○○

COST/EASE OF REPAIR

●●●●○○○○○○

new recessed door latches are not the easiest to operate, and the seats seem a long way down.

Headroom in the wide back seat is certainly better, but the low cushion means that legs are splayed not down but forwards, where the ironmongery under the front seats and lack of angled toeboards makes lounging difficult — especially when the driver corners inconsiderately fast. For real relaxation it's better to sit higher than you are encouraged to do here.

The body's elegance works against luggage accommodation, too, for the carpeted boot is shallow and prefers several small cases to a few larger ones.

In some respects, however, the Sovereign reigns supreme. Its suppression of bumps and noise at speed verges on a magic-carpet quality of ride, the big wheels flowing effortlessly over all man-

ner of ridges and ruts. The only check to the Sovereign's mastery of the road can be the crown of a humpbacked bridge, where the suspension's damping could be caught out of step. The limited ground clearance of the XJ's steering rack then becomes an expensive embarrassment...

Even more absolute is the Sovereign's rule over noise. 'Is it running?' was the typical first comment from new passengers as we drove away from rest. It's not just the lazy, big engine and carefully muted exhaust, but also the tuning of wind, tyre and body resonance to a new, low pitch that creates this sound of silence. It's unmatched — except, perhaps, by an XJ12.

The sum effect, with our car's optional speed control in use, is so effortless that, unusually, we really enjoyed cruising slowly in the Sovereign. For once, we could enjoy our stereo cassette tapes as if we were at home, thanks partly to the four superb speakers (one in each door). The engine's noise surfaces only at 80mph, developing into a none-too-irritating throb, by which speed wind noise is apparent, too.

Around town, the drooping boot and bonnet make it difficult to squirm through traffic, full lock is poor — if effortless — and the suspension is agitated by the Pirelli high-speed tyres' stiff, low-profile walls.

Automated air conditioning is a £1154 option even on the Sovereign, but it performs well enough to justify the expense. Particularly clever is the way that cool air can be introduced at face level (through screen demisters and outboard facia vents) while all forty toes are bathed in independently controlled warmth. The only time that the lone control dial is fooled is when you park the car in winter sunshine: it promptly opens the fridge door when you would prefer some warmth. Otherwise, it contends with extremes of temperature so well that passengers quickly forget it's working and assume that it's just a nice day, every day.

How strong

All these options make the current XJ a complex car, so reliability is unusually important. Financially-embarrassed Sovereign buyers who contemplate DIY work will be thwarted by the high technology in the cramped engine bay. Onlookers simply gasp in awe at the immaculately turned out engine with its chromed nuts and enamelled manifolds. DRIVE testers, however, are reminded of the Achilles' heel of earlier XJs — the sometimes unreliable ancillaries that serve the intricate engine.

Series-III bodies are built in an



DAIMLER SOVEREIGN SIII 4.2 Auto

Parts/repairs (inc VAT)

clutch £51.47 (fitting 3.2hr)
exhaust £258.98 (3hr)
headlamp unit £16.10 (0.3hr)
front bumper (3 parts) £118.16 (1hr)
laminated windscreen £78.20 (2.6hr)

oil filter (no points) £6.27 (0.3hr)
major service 6000 miles (5.2hr av)

Insurance group 7/8 Warranty 12month
any mileage, Supercover

Standing costs per year/12,000 miles
Loss of value £1189
Capital interest £820
New-cost inflation £3144
Total standing costs=£5153 (42.9p per mile)

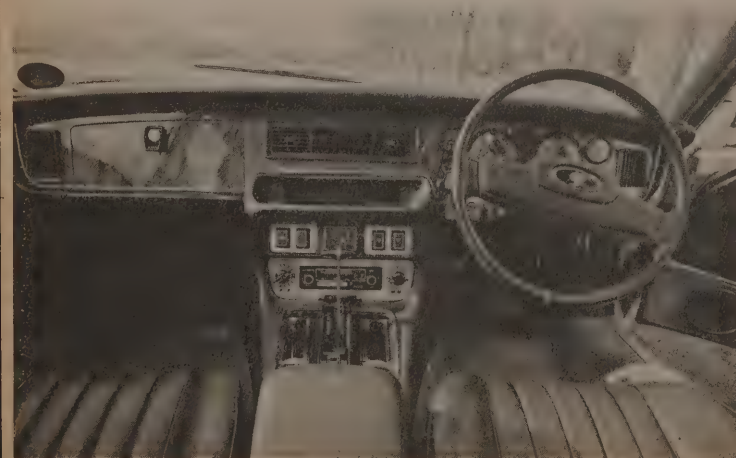
Running costs

Petrol (£1.38p per gal) £872
Insurance (av) £390
Road tax, AA sub £60+£26
Servicing/replacements £384
Total running costs=£1732
(14.46p per mile)

Total ownership £6885 (49.1p per mile)

HOW IT COMPARES

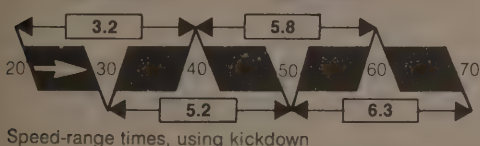
Daimler Sovereign SIII 4.2 auto
Mercedes-Benz 280E
BMW 735i (manual)
Vauxhall Royale auto
Rover 3500 auto





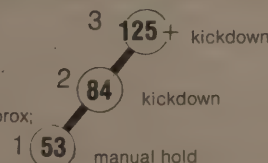
ACCELERATION times in sec

MPH	USING KICKDOWN	MANUAL HOLD TO 5200 RPM
0-30	4.2	4.2
30-40	1.7	1.7
30-50	3.9	3.5
30-60	6.9	6.1
30-70	10.2	9.4

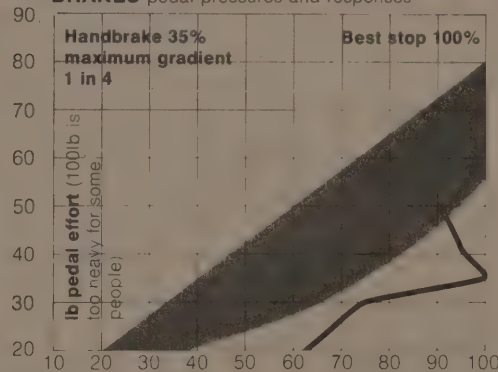


TOP SPEEDS

max engine speed used 5200rpm;
max in top 5100rpm approx;
standing ¼ mile
18sec



BRAKES pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)
30lb at start, **30lb** in constant use, **36lb** in severe use
Watersplash 48lb at first, **8** stops to recover

FUEL 4-star/97 octane min

Consumption — normal range

short journey in the suburbs	13½mpg
hard driving, heavy traffic	16mpg
brisk driving — 50mph cruising	19½mpg
gentle driving rural roads	21mpg
motorway — 70mph cruising	21½mpg

Typical mpg overall **19mpg**
Realistic tank range 350 miles/18½gal

Consumption at steady speeds

30mph	28mpg
56mph	26mpg
70mph	21½mpg
100mph	16mpg

SAFETY CHECKS O = factory-fitted option

steering: energy absorbing?	Yes	head restraints: front?	Yes
good road 'feel'?	No	rear?	No
brakes: powerful?	Yes	interior: well padded?	Yes
sensibly servoed?	No	w/screen laminated?	Yes
fade resistant?	Yes	doors: childproof?	Yes
belts: effective?	Yes	latches catchproof?	Yes
convenient?	Yes	petrol: shielded fillers?	Yes
fitted in rear?	O	protected tank?	Yes

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	BRAKES BEST STOP (%G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
16,485	4235	19	125+	9.4	100/35	16' 3½"	41½	42	3¼/41½
12,890	2746	21	120	9.2	97/45	15' 6"	45	42	3¼/36
16,396	3453	21¼	132	7.2	100/50	15' 11½"	43¾	39½	4/35½
10,290	2784	21¼	116	9.8	98/70	16'	41	42	4/32
10,077	3528	22½	117	8.5	100/70	15' 5"	41	41	2¾/34

impressive new Midlands factory where the construction and standard of finish should be of the highest order. Unfortunately, our well-used one-year-old test car didn't possess the flawless paint finish and scrupulous rust protection of the BMW 735i that we tested at the same time. Rust had appeared, and the sills in particular were stoned by the wheels. In such areas, mere painting is not good enough, even if it is four coats of thermosetting acrylic. Chrome plating abounds, but there's less of it than before and, inside, we noted that the good-quality carpets can be easily removed for cleaning. The great thing about the hide seat covering is that it looks just as good the older it gets.

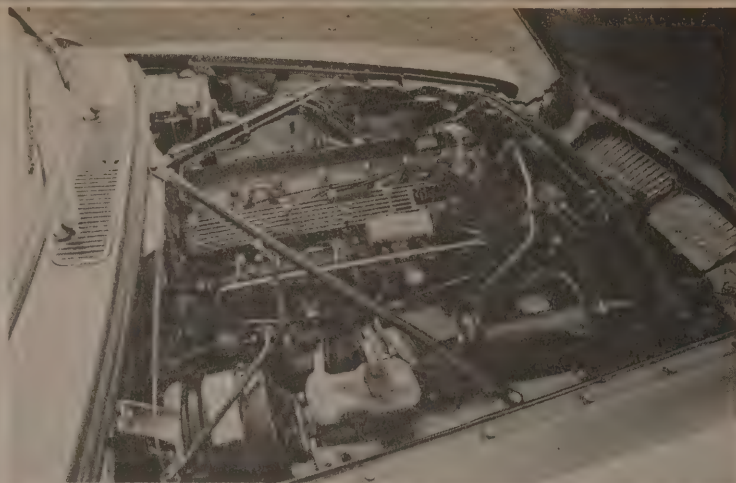
How safe

There are two ways to safeguard car occupants: first, with accident-avoidance systems, and then with injury-prevention features should the worst happen. The Series-III XJ scores well in both respects, being tenacious on wet roads, placid when its high limit of cornering speed is reached, and well padded.

Its powerful brakes resisted our fade test well, and though wet discs do seem to increase the brake-pedal load required, the car always pulls up four-square. In fact, the effort required at such times is more to our liking than the Series-III's normally over-servoed braking that can make panic stops too-precise a manoeuvre. The over-enthusiastic servo is a new Jaguar phenomenon, and as unwelcome to us as the over-light power steering. A longer-standing fault is the puny under-facia handbrake that cannot withstand a 1-in-3 gradient.

Among the many features standard to Daimlers are remote-controlled door mirrors, which greatly assist vision on motorways, a heated rear window that switches itself off after 15min of use, electric window lifters, central door locking, and an extra position on the lamp switch that operates dipped headlights and high-intensity rear foglamps in tandem for poor-light driving. The headlights themselves are magnificent, and give a good flare-path even when dipped.

As is usual, an immensely strong centre section cocoons occupants in a crash, and the front seatbelts are extremely convenient and comfortable to use. You have to pay extra to get rear belts, however, and their buckles tend to ride high on the passenger's pelvis. We expected such provisions as the laminated windscreen and careful safety padding, and were pleased to discover extras such as a sunroof that's built-in without spiteful



hard edges, the careful baffling of the two fuel fillers, and the twin fuel tanks' spillproof design that combats roll-over crashes. There's even a g-sensitive electric fuel pump that switches off in reaction to a violent frontal impact.

How much

'Anyone who buys a 120mph car for £2750 doesn't worry about fuel costs...' — this was our 1970 comment on the running costs of an XJ4.2. With this money today you couldn't buy even a Mini Super, but rising fuel costs still make the big Jaguar an endangered species. Without doubt, the Series III 4.2 is a reformed drinker: our overall consumption of 16¾mpg 10 years ago is now bettered by more than 13%, and the five-speed manual gearbox should be able to average the right side of 20mpg. The snag is that this rare breed of car thrives in unusual conditions: unlike most smaller cars that we test, the Daimler is at its most-economical when cruising at the motorway limit, and even hard long-distance driving proves noticeably more economical than a short morning journey to the school. Gentle driving produces little improvement on ordinary roads — a car of this weight squanders fuel in acceleration and deceleration. Then again, most Daimler buyers are corporate

bodies with copious cash flows to feed the beast's thirst.

If you're thinking of buying privately, the current state of the market should enable you to get a petrol-saving Mini thrown-in free. Our depreciation figures represent the way things should be when the market settles down after the recent silly season of losses. It's silly because anything approaching 2litres has been shunned — even cars that do more to the gallon than the models that have remained in favour.

Refuelling presents no other problems. There are twin tanks to be filled separately, but they offer an excellent range and, if you have the patience, each can be persuaded to accept 11gal. No low-level warning lamp is provided, but there's nothing quite so reassuring as seeing the gauge's needle flick to full at the click of the spare tank's switch. There certainly ought to be an engine oil-level lamp, as Jaguar's XK engine still uses its sump oil at the rate of 300 miles per pint.

Verdict

The Daimler Sovereign 4.2litre, along with its 5.3litre V12 stablemate, remains one of the world's outstanding cars. Nothing on four wheels offers such outstanding dynamic refinement and finesse. It can rush with hush like no other car, can corner the way that no bulky saloon has a right to corner,

and cossetts its occupants all the way to the top.

Surrounded by the good life, it's easy to dismiss the Sovereign's thirst for oil and petrol, and rise above the mundane problems of parking and maintenance. If the company accountants object, point out that the Series-III improvements have closed the consumption gap between Jaguar's 4.2litre and the sub-3litre offerings from Ford and Vauxhall to a couple of mpg.

For those who can find the first £16,000 and still keep on paying, there is nothing to equal Jaguar's Series III range, and the Daimler Sovereign is its crowning glory. It's as magnificent as it is extravagant.

ENGINE

Type and size front-mounted, 6-in-line, water-cooled; 92.1mm bore×106mm stroke=4235cc; 7 main bearings; iron block/alloy head

Compression ratio 8.7:1

Valve gear chain-driven twin overhead camshafts actuating bucket tappets (shim adjustment)

Fuel system Lucas electronic fuel injection; twin fuel tanks (20gal nominal) with facia change-over switch; no low-level warning lamp

Max power (DIN-net) 205bhp at 5000rpm

Max torque (DIN-net) 231-234lb ft between 1500-4500rpm

TRANSMISSION

Borg Warner Type 65 automatic with hydro-kinetic torque converter, variable drive ratio between 1 and 2.1; epicyclic 3-speed and reverse gearbox. Ratios: low 2.4:1, intermediate 1.46:1, top 1:1 and reverse 2.09:1

Final drive hypoid bevel 3.07:1 to rear wheels on test car (3.31:1 available)

Mph per 1000rpm 24.7 in top gear

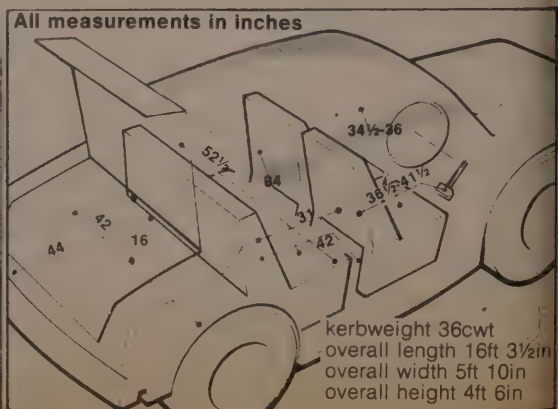
CHASSIS

Suspension — Front: independent double wishbones, with coil springs and anti-roll bar. Rear: independent coil spring lower transverse links, with half shafts forming upper links and trailing radius arms. Dampers telescopic all round

Steering powered rack and pinion, with 3¼ turns between full locks; turning circle average 41½ft between kerbs, with 67ft in response to one turn of wheel

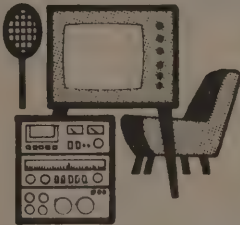
Wheels 6JK (steel) with E70 VR 15 radial-ply tyres (Pirelli P5 on test car)

Brakes dual-circuit hydraulic, ventilated discs front, plain discs rear, with pressure-sensitive rear regulator and vacuum servo



kerbweight 36cwt
overall length 16ft 3½in
overall width 5ft 10in
overall height 4ft 6in

“...flooded out just before the burglary...then the car packed up”



Think of all those valued possessions...the TV and hi-fi system, the house furnishings and electrical appliances, the sports gear, the clothing ... It's a worry, when you consider how many of your worldly goods are in your home, and vulnerable. **AA**

Homesure covers them against fire damage, theft, floods or burst pipes etc ... the things that can **and do** happen to everyone. Whether homeowners or tenants it offers really wide cover at best possible value. Unlike many policies, it pays up at today's full replacement value. It keeps pace automatically with inflating prices ... gives you free cover for any new purchases up to next renewal date. And it's truly flexible ... with extra cover for your freezer and contents, jewellery or cash if you want it.



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Was I glad of my AA cover!



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Freeport for details

Snip off this coupon and post in an **unstamped** envelope addressed to: **AA Insurance Services Limited, FREEPOST, Newcastle upon Tyne NE99 2RP.**

Please send me brochures on:

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- ☐ **AA Motorsure** extended warranty for new or used cars.

NAME _____

ADDRESS _____

CRASH

How much will it cost?
Pick any figure between
£700 and £2225

THE CRUNCH HAS COME, the tinkle of falling glass seems to be the only sound in the world. In the long moments of silence that follow, you know, without getting out to wave a fist, or look at the damage, that this is the one that's going to be worth losing your precious no-claims discount for.

And you're right. A couple of days later, when the garage hands you its estimate for repairs to pass on to your insurance company, you know that it's *really* worth it. Not for a moment does it occur to you that there is a very good chance of another garage doing the job more cheaply . . .

Could 'shopping around' really make that much difference? **DRIVE** invites you to draw your own conclusions from our experience with a damaged Ford Fiesta 1.1 Ghia, taken to 20 body-repair specialists in London, the Midlands and the South — 19 more garages than the average damaged-car owner would ordinarily visit when obtaining a repair estimate. We found:

Inconsistencies . . . with estimates ranging from £276 plus parts, to a total write-off of a car insurance-valued at £2225 — and every job and parts description was different.

Incompetence . . . for not one repairer proposed modern techniques that could have reduced the parts bill by more than £70. In addition, all failed to point out dangerous, defective suspension; and 15 of the 20 didn't warn of the danger of exhaust fumes leaking into the damaged car's interior.

Irregularities . . . with one repairer confiding that the practice of using second-hand panels, but invoicing for new ones, is widespread, and that garages don't always do the jobs for which they charge. Further, in some cases, it is alleged, insurance assessors are in collusion with repairers and accept bribes.

But why should you care? Your 60% no-claims discount has gone, and all you want back is your car, perfectly repaired. In fact, the higher the estimate, the more pleased you are likely to be: no one is sparing any expense, and at least you're seeing some return for years' paying ever-increasing insurance premiums.

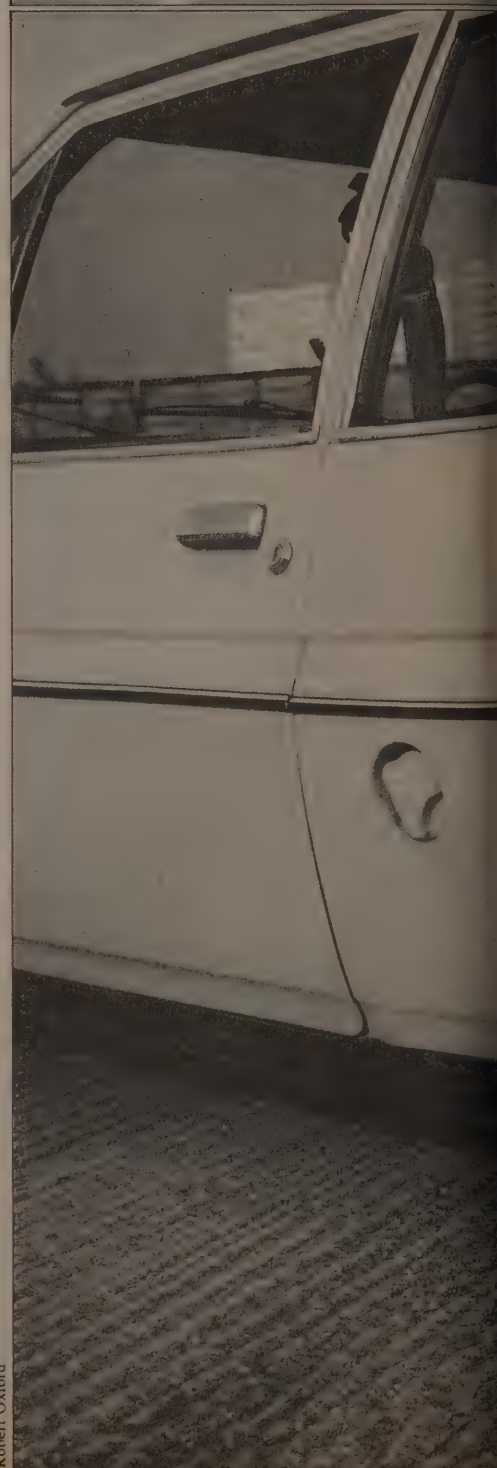
In fact, there's a very good reason why

you should care, why you should want to see the taming of the vehicle-repairs jungle. For these inconsistencies, incompetence and irregularities are all coming home to roost. With motor-insurance payouts last year hitting an all-time peak of £608million, the British Insurance Association warns that, unless things change dramatically, premiums will rocket, making today's 20%-a-year increases look like *good* news. In other words, *you* will pick up the tab in the end.

It is impossible to say just how much money the repair trade may be losing/wasting/ripping-off at motorists' expense. The one thing that's certain is that it's not only garages that are to blame: David Thomas, general manager of AA Insurance Services (Britain's largest private motor-insurance broker), says: 'Insurers, as an industry, do not inspect claims thoroughly enough. This despite the fact that only a fraction of repairers are bound by a code of practice or follow money-saving methods and guidelines on job times set by the Motor Insurance Repair Research Centre. As a result, different repairers hold different views on what needs to be done; and that leaves room for the unscrupulous operator to exist with allegiance to no one — motorist, insurer, or garage trade organisation.'

Certainly, a lack of uniformity was apparent from the estimates that **DRIVE** collected for its Fiesta. Our 500-mile fact-finding mission began at the Motor Insurance Research Centre at Thatcham, Berkshire, which was set up in 1969 to advise car manufacturers and train garage staff. There, under controlled conditions, a Ford Cortina Mk4 was run at 15mph into the nearside rear of the **DRIVE** Fiesta 'guinea-pig'.

The impact crumpled the little hatchback's tailgate, rear valance, bumper and nearside quarter-panel, tore off the rear foglamp, shattered the rear lamp cluster, distorted the top of the tailgate frame and the boot floor, and put four ripples in the roof, leaving the car just driveable. Immediately, two Thatcham experts set to work, independently of one another, and, half an hour later, reached the same conclusion: repair-work would take 55hr. In all, 40 separate operations were listed,



Robert Oxford





Even though its efficient handbrake was set fully on, our shunted Fiesta was somewhat moved by its meeting with the catapulted Ford Cortina.

representing a bill of £800, with labour accounting for 60% of the total.

But of the 20 estimates subsequently canvassed from independent repairers, a dozen quoted times in excess of the Thatcham assessment, and one south London garage considered the car to be beyond repair — an insurance write-off. Not only that, when each repairer's work-list was compared and itemised, the final tally yielded more than 50 jobs over and above the Thatcham schedule.

One garage in the South Midlands even listed a complete body shell (more than £650), and, with all the extra work that a body replacement entails, submitted a labour bill for 102hr, or nearly £920.

Then there were the labour estimates from the Southampton and Birmingham branches of a national garage chain — £676 and £378 respectively. Perhaps Birmingham mechanics work faster . . . ?

Interestingly, 12 of our 20 repairers were members of the Vehicle Builders and Repairers Association (VBRA) and, as a result, bound by a code of practice designed to ensure that 'the public receives the best-possible service'. Yet there was a 100% difference in labour charges between the top and bottom of the dozen VBRA estimates — £676 against £345. 'I appreciate that there are variances,' comments a VBRA spokesman, 'but, having said that, I wouldn't have expected the gap to be so wide. And, yes, I am concerned, for the quality of any estimate depends entirely on the person who carries out the examination.'

Nine of the 20 garages visited by DRIVE were members of the Motor Agents Association and, again, bound by a code of practice; but here, the differences were

even more marked — a near-150% disparity between £938 at one end and £400 at the other. An MAA spokesman declares: 'It underlines the extremely wide range of estimating prowess. It has to be admitted that estimating skill is not of a high order. Indeed, we have just commissioned an article for our members' magazine on how to estimate accurately . . .'

Even these examples by no means

INSIDE STORY OF THE BENT CAR BUSINESS

With the kind of leeway found between the estimates of DRIVE's two insurance-company claims assessors, it doesn't require much imagination to appreciate how the situation may be exploited by an experienced and unscrupulous operator. And just such a person — a highly-skilled, one-man-band with premises in south London — was prepared to tell DRIVE how . . .

After examining the damage to our Fiesta, he pronounced that the whole job, with corner-cutting, would take him 25hr, but he would estimate 72hr.

He would obtain all parts, except the near-side rear quarter-panel, secondhand from breakers' yards, and charge for new replacements. To increase his profit margin still further, he would repair several sections and, again, charge for new parts. 'These goings-on are widespread in the trade,' he claims.

He listed a new roof panel (he would, in fact, have straightened the existing section) and a replacement for the nearside passenger door that had jammed on impact but which, when finally eased open, was found to be undamaged, saying: 'No insurance assessor I know would have queried the door. He couldn't have freed it to dispute it.'

He also would have charged for a new rear screen with heater element (but would have re-fitted the original that was still intact and in

reflect the true size of the differences uncovered in the DRIVE investigation: both the highest labour estimate (£938) and the highest total (the south London garage's £2225 write-off decision) are three to four times the lowest estimate (£276 and £700).

However, it must not be forgotten that seven repairers produced estimates that were lower than Thatcham's, so perhaps

working order) and replacement wiper and washer units (also undamaged).

Yet despite all this deception, his final bill was still within the larger of the insurance assessors' allowances.

Simplest of this man's ruses was to show 4hr of his 72hr total bill as 'tracing electrical faults' — a happy hunting-ground for 'bent' garages. He told of a German luxury car that had caught fire on a motorway through a short-circuit. The true cost of repairs to the wiring loom and ignition switch was around £200, but the insurance assessor was persuaded that all the fascia instruments had burned out, and that a £700 stereo unit was also beyond repair. The insurance company paid out £2000.

More sinister was the allegation that some insurance assessors accept bribes in return for rubber-stamping inflated crash-repair estimates. The deals, he explained, were cleverly disguised, with the repairer deliberately over-estimating by, say £100, the insurance engineer knocking £50 off to keep Head Office happy, and the repairer and the engineer pocketing the difference.

Many assessors belong to the Institute of Automobile Engineers Assessors, but a spokesman comments that only two or three have appeared before its disciplinary committee in recent years, charged with not doing their jobs properly. In cases of guilt, the penalty is banishment from the institute and from the profession.

some of them would have undercut the Motor Insurance Repair Research Centre at the end of the day? Don't bank on it: every garage-estimate form carries a small-print clause which states that if, on dismantling, further work becomes necessary, the customer can expect a supplementary estimate.

At the actual repair stage, the Thatcham experts stumbled on one pricey item that they themselves had missed: it proved impossible to straighten the Fiesta's rear quarter-panel inner skin without tearing it, and the cost of a replacement panel was £61.25 plus two hours' labour.

The key question, though, is: Would your insurance company have approved any of the higher estimates in the DRIVE sample?

Obviously, haggling does take place, but a BIA spokesman says: 'Insurers would normally expect the final bill to be pretty close to the estimate.'

Could it be, then, that the man who judged the car a write-off and the estimator who was ready to charge for a new body shell, were so snowed under with work that they purposely went 'over the top' to ensure that they wouldn't get the job? Hardly. As Roger Burgess, chairman of the VBRA national council, points out: 'If a garage deliberately inflates its price for this reason, it's effectively ensuring that a customer will not come back there again should he have another accident.'

What, then, would an insurance company have accepted for the repair-job on our Fiesta... even allowing for the disclosure by one repairer that the labour rates it charges by the hour will often differ, depending with which insurer it is dealing?

Normally, on expensive jobs, an insurance assessor and repairer will discuss the submitted estimate with the car present. But in some cases, if requested, an assessor will prepare a damage report at an insurance inspection centre without the presence of a repairer. That's what DRIVE had done with the Fiesta — twice. We had one quote from an insurance engineer employed by a leading company, and another from an independent claims assessor used by insurers on a freelance basis. Neither expert suspected DRIVE's involvement — like everyone else, they believed that the battered Fiesta was in private ownership — and their conclusions proved interesting. The major insurance firm, on the strength of its staff engineer's assessment, would have passed a bill of up to £1113 — 35% more than the top allowance of £825 from the independent.

With its staffman's recommended ceiling labour-cost of £688, it's likely that the well-known company would have accepted all but two of our 20 estimates without quibble. The independent did not separate the labour charge and the cost of parts, but it's almost certain that, on

his judgement, an insurer would have passed 15 of the estimates unquestioned.

Thatcham director Danny Gibbs is critical of the repairers. 'It's clear that many of the engineers concerned in this exercise don't know how to do their jobs,' he says, flatly. 'No wonder the trade has such a bad name. I wonder how many supplementary estimates would have been issued? Parts listed range from seven to well over 20, and many inspections missed big items.'

'I realise that it's common practice for garages not to quote the cost of parts, but how can they decide whether to replace or repair if they don't know the prices or can't be bothered to look them up? And there's no doubt that, in many cases, old-fashioned panel-beating is cheaper than fitting replacements.'

In fact, because it was prepared to put right some of the Fiesta's body damage by pulling out and reshaping, Thatcham was the only repair-shop to consider using a part-panel replacement instead of a whole nearside rear quarter-panel — representing a replacement-and-labour saving of £40. It was also the only organisation to contemplate 're-skinning' the tailgate instead of ordering up a complete new unit — a further saving of £32.

Gibbs goes on: 'It would be wrong to say that nothing is being done to remedy the shortcomings of the trade. We, for example, have been running courses for assessors and repairers for several years. But I agree that these results aren't very encouraging. Mind you, when we started, repairers would happily over-estimate labour hours by 300% because of dated techniques; we've cut that figure to 100%. But it's like training wild animals: when you turn them loose, they revert to their old ways.'

The VBRA, too, is concerned about unsatisfactory standards, and is currently preparing a registration scheme which, it hopes, will be adopted nationally. The aim, simply, is to prevent repairers trading, if their qualifications and workshops don't come up to scratch.

Says George Tempest, chief motor engineer of the Norwich Union insurance company: 'With Thatcham playing an increasingly important and recognised role, I think that the time is ripe for a national agreement between the VBRA, MAA, the Society of Motor Manufacturers and Traders and the government. Since 60% of damaged vehicles can still be driven, there should be special drive-in centres, like those on the Continent, where the motorist fills in a claim form and has the damage assessed. He then takes his car to a garage that meets certain standards in equipment and expertise. It's the method of repair that is the key.'

It could be years, however, before any well-meaning scheme achieves anything, and the important issue is: What can be done in the short term, especially with insurance underwriting losses of £20million in both 1977 and 1978, and with an

even greater deficit forecast for 1979?

One loophole in the system that, according to the AA's David Thomas, is contributing to the high level of insurance payouts could be blocked, he feels. 'In some cases, should a claim fall below a particular level, there is no inspection at all. And garages are generally aware of the point where the line is drawn.' The introduction of spot checks by insurance engineers at any stage — before, during or after a repair — would, he says, keep repairers on their toes, and, where a garage is handling more than one job for the same insurer, enable assessors to save time and money by conducting more than one examination per visit.

Clearly, with claim costs rising, and the unwelcome prospect of big premium increases ahead, the need for positive action is urgent. The universal adoption of Thatcham's money-saving methods, the VBRA's registration scheme, and before-during-and-after inspections would certainly help to clear the undergrowth of the car-repair jungle. But surely the interim solution is simpler: Insistence by insurers that, where a damaged vehicle is driveable, motorists have estimates carried out by at least three garages; or that cars — especially those immobilised — are taken, where practicable, only to repairers on approved lists; and that garages provide proof that they have used the new parts specified.

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Ride the tube to Paris and Brussels?

IT WOULD COST the equivalent of 20 Jumbo jets to build — considerably less than, say, the development costs of Concorde or a Third London Airport — it would help convey passengers or freight to Paris or Brussels in less than 4½ hr at a quarter of the fuel consumption of an aeroplane, be unaffected by weather, and last virtually for ever. And it would even be expected to provide a 14% return on investment!

I refer, of course, to the Channel tunnel, as now proposed by British Rail and French Railways, to be built and be in operation by 1989. Their scheme (more about other tunnel concepts below) is considered to be a front-runner in the newly revived competition to provide a direct link for rolling stock to and from the Continent.

The BR/FR plan features a single-track tunnel (as favoured by the EEC Transport Commissioner) and a smaller service tunnel alongside, with frequent connecting shafts, from a point near Dover to one just west of Calais. It is coincidentally similar in many respects to the lowest-cost scheme proposed by the private-

sector Channel Tunnel Group (see box).

The BR and French Railways scheme aims to cater mainly for passengers and freight, and carry cars only by *Motorail* in the peak holiday periods. Thus, it hopes not to affect ferry operations (including the railways' own Sealink) too adversely, although, with no road or lorry-carrying facility, it obviously will meet opposition from the road transport lobby and others.

The latter interest is not, of course, sympathetic to the argument that a rail-only tunnel would divert many heavy freight lorries off roads altogether, although environmentalists in Kent find this a point in its favour — especially as the latest scheme does not involve construction of a new rail link from Dover/Folkestone to London.

Both national railways say it would help them to exploit their existing networks to the full within a European master-plan that, incidentally, would also include a rail link between Sicily and the Italian mainland. The air-conditioned, electric trains would be fuel-saving — a valuable

insurance against any future oil shortages — and, as the various proponents also claim for other Channel schemes, it would finally obviate any need for a Third London Airport.

At full capacity, 120 trains could pass through the tunnel in a day — 60 in each direction in various phases. And this could eventually be increased, if and when the boring of a second, parallel rail tunnel were an economic proposition.

Britain's Minister of Transport, Norman Fowler, provides cautious encouragement: 'I look forward to receiving any specific proposals, including those on which British Rail is working, that would attract genuine risk capital.' 'Risk capital' is the

important phrase, for the government could not contemplate expenditure of this scale. The very latest cost estimate of the BR scheme is about £800million for the single tunnel.

Richard Cottrell, a member of the Euro-Parliament's transport committee, who is preparing a report on the integration of Europe's rail systems, comments: 'The problem won't be getting the money, but apportioning the shares among all those who want to be in on it.' His one reservation about the single-track project is that it is not ambitious enough.

There are now increasing hopes that the EEC will consider providing a grant (perhaps 20%) and arranging cheap loans



Great bores of yesterday

OFTEN PRONE to sea-sickness, Queen Victoria was in favour of a Channel tunnel. So was Albert. But Prime Minister Palmerston told the Prince Consort: 'You would think quite differently if you had been born on this island.'

Sir Winston Churchill was pro-tunnel, but his ancestor, Lord Randolph, was against it, implying in a Commons speech that it would mean that England would no longer be 'as it were, virgo intacta'. Other tunnel opponents have included Tennyson, Browning, Thomas Huxley, and, more recently, Viscount Montgomery.

Since Victorian times, and perhaps before, it has not been a lack of technology that has damped down tunnel hopes. Objections have been for economic or military reasons, or even a chauvinistic feeling that England would not remain 'This precious stone set in the silver sea, which serves it in the office of a wall... Against the envy of less happier lands.'

It is only 100 years since General Sir Garnet Wolseley warned that, for instance, hostile French

forces might cunningly establish a bridgehead for the invasion of England by travelling through any such tunnel in express trains, with concealed arms and in civilian clothes. Or, if in uniform, they might travel with the carriage blinds down! Technical arguments raged for some time as to whether, if apprehended in time, they could be asphyxiated, blown up, or drowned by water sluiced into the tunnel — without also drowning innocent passengers who might be following in other trains.

The fear of subterranean invasion had existed on and off since 1802, when (probably) the first

tunnel scheme was suggested to Napoleon by French engineer Albert Mathieu. Some Frenchies then saw it as a means of military adventure into England with horses and men. Their troopers could take a breath of fresh air en route, where the proposed tunnel (as suggested in a more-modern scheme) emerged briefly on the Varne Bank, halfway across the Channel.

Thomé de Gamond was a spirited Frenchman who, from 1833, spent half his life and all his money researching Channel bridge or tunnel concepts, without any dastardly designs on Eng-

land's sovereignty. At the age of 48, he would dive naked more than 100ft to the Channel bed, with lint bindings to protect his ears from water pressure, four bags of flints carried as ballast, and 10 inflated pigs' bladders to buoy him to the surface after he had released the ballast — all to collect geological specimens.

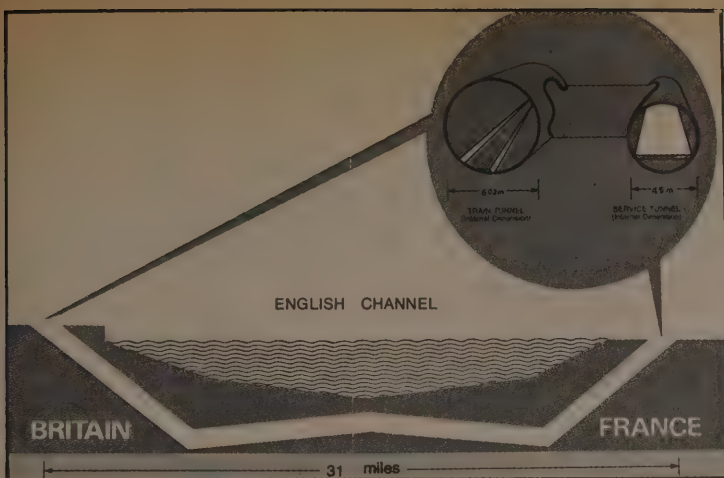
Although he enthused famous British engineers, politicians and even royalty with his tunnel ideas, he faded from the scene, and died the year before the first boring operations were begun by the French Channel Tunnel Company, in 1877.

In 1880 the British Channel Tunnel Company began a project that was proudly hailed as 'the engineering triumph of this great engineering age... a boon to the many ladies — and gentlemen, too — who in foreign venturings have had to suffer the indignities of *mal de mer*...'

The No 1 Shaft was sunk near a South Eastern Railway tunnel between Folkestone and Dover. When it reached a depth of 74ft, a trial submarine tunnel was driven for a total of 897yd. The No 2 Shaft was sunk by Shakespeare Cliff, near Dover, to a depth of 163ft, and from its base 'Colonel Beaumont's boring machine' bored a 7ft-diameter tunnel for about 2000yd.

Fashionable folk began to





towards Channel tunnel construction as a 'mollifying' means of channelling cash back to Britain — one possible compensatory answer to the UK's campaign for a reduction of our disputed £1billion-plus contribution to the EEC budget.

With a total length of 31 miles — 23 of them under the sea to a maximum depth of 125ft below the seabed — the railway tunnel would link Cheriton, near Dover, with a point between Sangatte and Wissant on the Calais side. True, a number of people might feel claustrophobic at the idea of travelling for 35 minutes in a submarine tunnel, but many travellers are also slightly nervous of flying, or airsick or seasick. And

arrive by special trains for champagne parties in the tunnel to inspect the workings, but the celebratory feeling was premature: the project was halted by government injunction in 1882.

From the early 1900s, the English Channel Company, chaired by banker Baron Frederic Emile d'Erlanger (and later by his son and his nephew), continued to promote the cause with some press support but continuing disappointments. In 1918, Marshal

the 17-mile London Transport Underground from Morden to East Finchley has no shortage of travellers . . .

Some comparisons. The world's longest sub-aqueous rail tunnel is an 11.6-mile stretch in Japan, and, some time after 1982, completion is expected of a 33½-mile rail tunnel, 14½ miles of it underwater. Japan also has a mountain rail tunnel of nearly 14 miles, while France's Simplon rail tunnel is 12.3 miles, and Alpine road tunnels reach nine miles.

Should it ever be necessary to evacuate a train in the Channel tunnel, BR says passengers would pass along a walkway to the doors of the nearest cross-

Foch opined that, had there been a Channel tunnel to speed up Allied armies' supplies, the Great War would have been shortened by at least two years.

In 1960, the opposition was again from military personalities, including Lord Montgomery — but, this time, taxpayers, airlines and hovercraft enthusiasts joined in, too. A French scheme for a Channel bridge was promoted, but dubbed a likely hazard to shipping. By 1974, the then

passage that provides access to the parallel service tunnel. (Cross-passages between the two tunnels would be at 500yd intervals, or, in a rival scheme, at every 250yd.)

The service tunnel would also have ample and constant clean air, and passengers would walk along it as far as a cross-passage leading back to the main tunnel and the relief train in which they could complete their journey.

Operating, safety and maintenance equipment would be incorporated in the service tunnel under carefully controlled conditions, and security surveillance at all stages would be at least as stringent as those at airports and in aircraft.

BR says passengers will enjoy 'high standards of comfort, in air-conditioned rail coaches incorporating special in-train safety and communications features. There will be a wide choice of trains in each direction on the London/Paris/Brussels routes, with a total journey time of less than 4½hr, city-centre to city-centre — which compares very favourably with air travel over the same routes.'

The trains would run in convoys, in a two-phase, 3hr cycle of operation. From the London end, 10 trains (say, six passenger and four freight) would arrive at the UK entrance and travel through in the first 1hr 25min phase. Ten minutes after the last ex-UK train

Labour government had given the go-ahead for a tunnel, but, in 1975, the Cabinet took fright at the high cost and ordered work to be stopped after a £500,000 mechanical 'mole' had burrowed 300yd in the direction of France. The main body of this 'mole' has since been sold to a scrap dealer for about £20,000, but its cutting head is still embedded in the chalk marl under the seabed not far from Shakespeare Cliff.

Will it, one day, be found?

Scheme E Similar to BR's single-track bored design, except that steeper gradients at the entrances cut the tunnel length by nine miles, and the cost to £540million. There would be supplementary banking engines to assist trains up the gradients, and a half-mile duplicated main tunnel in the middle to provide a bypass siding. Could be built in six years.

Projects proposed by other concerns include another submerged tube, and three bridge schemes that could be profitable (if expensive), but are likely to meet opposition as being potential navigational hazards to Channel shipping.

There is also an American concept that involves freight 'capsules' being propelled along a submarine tunnel by the force of compressed air.

had cleared the tunnel, the first of 10 trains from Paris and other Continental points would be timed to arrive at the French entrance to make their tunnel journey. Customs and immigration procedures would be at the rail station.

The operation would allow future traffic to grow by about a third: in the early operating years, the peak daily requirement is estimated at 20 passenger trains and 15-20 freight trains in each direction. (There would also be a 6hr daily maintenance period.) Passenger and freight traffic to and from the Continent is expected to double over the next decade. For the tunnel, the passenger forecast is 6million journeys by 1988 and 8million by the year 2000, freight traffic rising to 5.5million and 7.9million tonnes respectively.

Although it is presently planned that through-services to Paris and Brussels would operate only from London, there would be fast connections to these trains from main centres such as Glasgow, Edinburgh, Liverpool, Manchester and Birmingham.

Passenger trains could also carry about 1million Red Star Express packages, plus substantial tonnages of post and newspapers to the Continent. And perishable commodities would form a significant part of the freight traffic.

BR claims that, unlike the scheme abandoned in 1975, the latest plan involves little environmental disturbance and requires only minor improvements to the present railway infrastructure.

It envisages the need for: a number of sidings near the entrance to the tunnel; a road/rail container interchange station in Kent, which may include provision for a limited number of sleeper and night Motorail services in the peak holiday period

local connections to serve passengers in Kent who would otherwise have to travel to London to board a tunnel-train for the Continent.

limited work on certain sections of the existing railway route from London

and a London passenger terminal — sites presently considered are Victoria Station and an area along the West London line. (The tunnel-train timetable would be designed so as not to affect commuter rush-hour periods in Paris or London.)

At the end of this year, independent assessments of various alternatives will be reported to Britain's Transport Minister and to the EEC Commission in Brussels. And, by next year, we should know what is eventually going to be the newest way to enter Europe on wheels.

ED NEWMAN

CHUNNEL SCHEMES

There seems to be little reluctance in private industry to involvement in a Channel tunnel. Leading light is the Channel Tunnel Group, a consortium of four major European civil engineering contractors, including Britain's Costain. It has come up with five 'Chunnel' proposals:

Scheme A An immersed tunnel, containing a single-track railway with a dual motorway, at a cost of £3250million, that would have a terminal on reclaimed land west of Dover Harbour and a secondary terminal at Cheriton, with a terminal near Wissant in France. Each of the immersed pre-cast concrete units would be about 135yd long, 45yd wide and 30-35ft deep.

Scheme B An immersed tunnel

containing a twin railway built to the Continental gauge, allowing a roll-on/roll-off shuttle service, at a cost of £1500 million. The terminals would be at Cheriton and at Wissant. The tunnel segments would be smaller than for Scheme A, and a bored tunnel under Shakespeare Cliff at Dover would carry the railway inland.

Scheme C A single-track bored tunnel, costing £770million, to accommodate British and French service trains with Motorail facilities, and incorporating a service tunnel. Terminals, excluding the roll-on/roll-off function, would be similar to those in Scheme B.

Scheme D A twin-track rail tunnel similar in facilities to Scheme B, but using the bored method rather than immersed units. The cost is estimated at £1350million.

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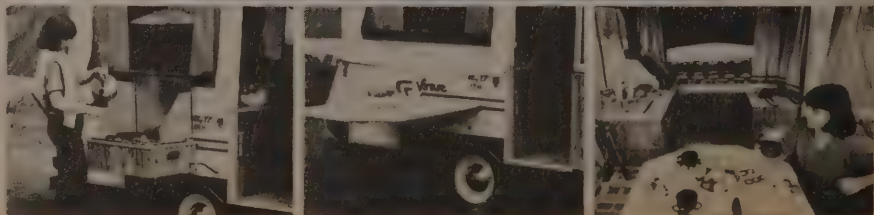
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Deutsch marque's interest rates high

Nothing boring comes out of the Bayerische Motoren Werke. Its BMW initials conjure-up the day-dream of high-performance cars and motorcycles with a hint of confident understatement, and Britain is still a valuable market for such exotica.

There's something for almost every purse in BMW's 22-model range, created from just four body shells and no less than eight varieties of engine. They're not all ultra-powerful sportsters, but that's the image that pulls in the private buyer, and no-one seems to complain.

With the 735i, however, BMW isn't kidding anyone. This is the flagship of its fleet, with a power-to-weight ratio that promises to leave your stomach in the back seat, along with the chauffeur.

Having already sampled the auto version on a trans-Continental

BMW 735i

dash to Italy, we settled for the manual box this time. We booked one with most of the many options, and kept our options open.

How it goes

BMW's volume of production makes it one of motoring's minnows at 250,000 cars a year. The advantage is that the company can respond quickly to criticism, and the 735i is one example. Since the launch of the big 7-Series body, its engine has grown to 3.5litre to outperform most rivals, and an overdrive fifth gear is a concession to economy.

With electronic fuel-injection and ignition systems that almost think for themselves, our car started first time every time, idled

smoothly — if rather quickly — and rared to go. And it's on the road that the car starts to sell itself, for the 735i impresses more on the move than in the showroom. Its acceleration times (overpage) put many a true sports car's to shame, and make the 4.2litre Daimler that we tested alongside seem as asthmatic as a chain-smoker attempting to catch Sebastian Coe.

Laying down black rubber stripes from the fat back tyres, we reached 100mph in 20.4sec — still in third gear! Indeed, the engine is so willing to rev into the red sector of the tachometer that drivers really need the ignition-cut out to temper the 735i's natural enthusiasm. Because of the ultra-

lazy fifth gear, adequate overtaking times can only be achieved in fourth, but it's such a delightful gear-shift action that down-changes are no ordeal.

Gear ratios can be criticised, however. Clearly, the box was not designed for 70mph Britain, for in top gear on the motorway the engine is barely above tick-over, and law-abiding drivers will rarely reach the engine's peak power. Other testers believed that it was Britain's speed limits that needed revision, for what could be less stressful than a top speed of 132mph at a leisurely 4750rpm?

Our frequent gear changing met only one drawback — the too-hefty 40lb pressure required to floor the clutch pedal. More like body-building than driving.

As for the steering, well... it's eat-our-words time. DRIVE has



David Crisp

often insisted that no other system can match rack-and-pinion steering for its ideally precise handling. On paper, this BMW's recirculating-ball system seems better-suited to American or Japanese tastes — but it performs superbly. DRIVE has also maintained that no power steering system has yet allowed the driver true 'feel' of what the front wheels are up to, but this German system comes very close to achieving just that. When the front wheels start to slide, the cleverly weighted steering wheel actually lightens in the driver's hands. It's an artificially created sensation, however, and real road sense comes through the seat of the driver's pants. Nevertheless, hats off to the maker, ZF, a company better-known for its sturdy, rally winning gearboxes. Breeding will out.

We had to make two trips to the test track, once in the rain and again when it dried, but we are glad we did. Harsh things were said about the car's wayward tail on the first outing, and more than one driver was caught out by its 217 brake horses scrambling to get a grip. While the 735i's wet-weather behaviour will appeal to skilled drivers who enjoy a challenge, DRIVE has every sympathy for the dashing amateur who meets an unexpected puddle in mid-corner. 'Treacherous' was one tester's comment.

On a dry day, the car redeems itself. The boot can still be powered past the bonnet, but the driver does have to deliberately provoke the Michelin XWXs into screaming. Skilled drivers can then steer neatly into the skid while balancing the car with the throttle, which brings the BMW back to heel like a well-trained — if exuberant — dog. Perhaps we should say that owners with an eye on their no-claim discount will rarely find the handling anything but neutral, the car always going where it's pointed.

BMW was the first to place driving instruments behind a single piece of reflection-free glass, and while most mass-marketeers now follow its lead, this German's fascia remains the one to beat. It's all legible, functional and as stark as Concorde's flight-deck. The more-unusual functions that are monitored by warning lamps include engine oil level, brake fluid level, brake lamp bulbs, coolant level, windscreen washer fluid, rear lamp bulbs and brake pad thickness. There's even a button to test the warning lamps for bulb failure, and BMW leaves three blank spaces in case there's a function it has forgotten to provide for. Surprisingly, such concern for safety does not extend to a fasten-seatbelts indicator lamp.

HOW GOOD

At-a-glance

DRIVE's verdict on the BMW 735i, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●●●●●

FUEL ECONOMY

●●●●●○○○○○

HANDLING/STEERING

●●●●●●●●○○

COMFORT/REFINEMENT

●●●●●○○○○○

INTERIOR SPACE

●●●●●●●○○○

PASSENGER AIDS

●●●●●●○○○○

DRIVER AIDS

●●●●●●○○○○

ACCIDENT/INJURY SAFEGUARDS

●●●●●●●○○○

RUST RESISTANCE

●●●●●●●○○○

COST/EASE OF REPAIR

●●●●●○○○○○

Controls for wipers, washers, indicators and headlamps are grouped European-style on two steering column stalks, and under the column is a lever to adjust the wheel for reach, if not rake.

We give BMW a black mark for charging extra for its headlamp wash/wipe system, but are impressed by the electrically controlled and heated door mirrors, powered windows and frost-fighting heated driver's door lock. The centre console houses a row of heater knobs and wheels, and an LED clock which can be rendered unreadable by bright sunlight. The four horn-buttons — one per steering-wheel spoke — are too easily found at times. To help you find other things, there's a torch built into the ignition key's fob and a torch that recharges itself in the glovebox.

How comfortable

One of DRIVE's testers has the sort of back that detects poor seating in just a few miles, and he's thinking of claiming for industrial injury after a 1000 miles in the 735i. The seats are built in the German tradition of catering for oversized rumps, and our tester clearly didn't match BMW's driver-profile. It's one area where the Germans could learn from Jaguar. After seeing BMW's advert showing the chauffeur taking the back seat, we don't think that he should complain too loudly. The tape measure says that rear-seat legroom is tight for its class, but the space has been stolen for the benefit of passengers by the provision of angled

toe-boards under the front seats. Despite the centre armrest, passengers' lateral support is insufficient when the driver's in a hurry.

The 7-Series body is very roomy, with a glovebox as big as some cars' boots. Heavy luggage will prove easier to get into the boot than to extract as its sill is unhelpfully high. Your golf clubs will be cosseted in the fully carpeted compartment, and few will miss the space robbed by the mighty spare wheel.

Compared to all but the Daimler Sovereign, the 735i is a quiet car. Body boom and unwanted whines are unheard of, and only a distant growl from the bonnet breaks the peace. We would have used the expensive, electrically operated sunroof more often had it generated less wind noise and turbulence.

We were disappointed by the quality of this top model's ride, which is easily bettered by the Peugeot 505 at half the price. The suspension lacks the Daimler's versatility, being at its cleverest only at 120mph-plus, which you won't often reach in Britain...

It takes six pages of handbook words and pictures to explain the heating and ventilation system, and therein lies the problem. Even drivers in the know have to avert their eyes from the road to adjust its many controls. Once mastered, it performs well, giving rear seat passengers independently adjustable outlets, but it isn't as good as real air-conditioning. And even for this top-of-the-range BMW, that remains a costly optional extra.

How strong

BMW boasts of 'one-season' undersealing that requires retreatment after 14 and 36 months at the owner's expense. However, the AA's expert found the underbody protection first-class. The combination of tough compound on external panels and a fine layer of wax in the box sections together makes an efficient rustproofing treatment. Paint is well applied, and tin-worm breeding traps have largely been designed out of the body.

We suspect that most BMW owners will lift the bonnet only to impress the neighbours, and they will be impressed... It's the fuel-injection system that makes DIY maintenance almost impossible, so driveway experts will have to confine their activities to topping-up and replacing the odd filter. To compensate, compulsive tinkers can polish the trayful of tools in the boot lid.

The main problem with cleaning the exterior is that there's so much of it, but running it through a carwash revealed few crevices where the brushes couldn't reach. The spoked alloy wheels, on the

BMW 735i

Parts/repairs (inc VAT)

clutch £115.17 (fitting 2.08hr)
exhaust £345.83 (1.66hr)
headlamp unit £107.04 (0.75hr)
front bumper £78.95 (1.83hr)
laminated windscreen £81.48 (1.83hr)

oil filter (no points) £2.26 (0.5hr)
major service 10,000 miles (5.75hr)

Insurance group special rate

Warranty 12 months/unlimited mileage

Standing costs per year/12,000 miles

Loss of value £1912
Capital interest £889
New-cost inflation £2628
Total standing costs=£5429 (45.2p per mile)
Running costs
Petrol (£1.38p per gal) £779.29
Insurance (av) £319
Road tax, AA sub £60+26
Servicing/replacements £355
Total running costs=£1251.29 (10.4p p mile)
plus total standing costs gives —
Total ownership £6680.39 (55.7p p mile)

HOW IT COMPARES

BMW 735i

Daimler Sovereign SIII 4.2 auto

Rover 3500 auto

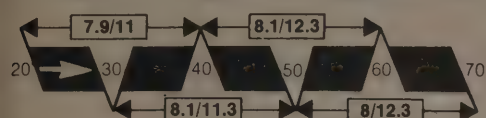
Vauxhall Royale auto

Ford Granada 2800i Ghia auto



ACCELERATION times in sec

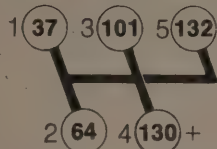
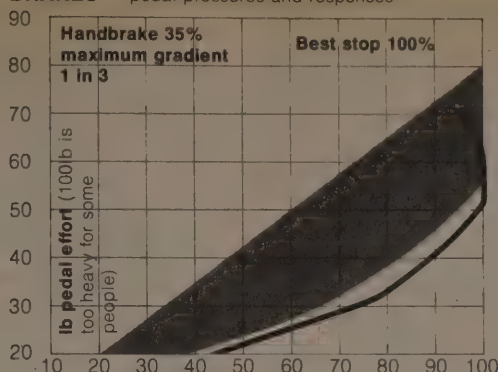
MPH	THROUGH GEARS	IN 4th GEAR	IN TOP GEAR
0-30	2.7		
30-40	1.6	3.9	5.2
30-50	2.9	8.1	11.3
30-60	4.3	12.0	17.5
30-70	7.2	16.1	23.6



Top-gear speed-range times (sec) — 4th/5th gear

TOP SPEEDS

max engine speed
used 6200rpm;
max in top 4750rpm;
standing ¼mile
15.6sec

**BRAKES** — pedal pressures and responses

% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)

40lb at start; **38lb** in constant use; **38lb** in severe use

Watersplash 40lb at first, immediate recovery

FUEL 4-star/98 octane min**Consumption — normal range**

short journey in the suburbs	16½mpg
hard driving, heavy traffic	18½mpg
brisk driving — 50mph cruising	19½mpg
gentle driving — rural roads	23mpg
motorway — 70mph cruising	24mpg

Typical mpg overall

Realistic tank range 325 miles/15.1gal

Consumption at steady speeds

	4th	5th
30mph	28½mpg	31¼mpg
56mph	25mpg	27½mpg
70mph	22¼mpg	24mpg
100mph	15mpg	16¼mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	head restraints: front? Yes
good road 'feel'?	Yes	rear? No
brakes: powerful?	Yes	interior well padded? Yes
sensibly servoed?	Yes	w/screen laminated? Yes
fade resistant?	Yes	doors childproof? Yes
belts: effective?	Yes	latches crashproof? Yes
convenient?	Yes	petrol: shielded filler? Yes
		protected tank? No

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/CIRCLE (FT)
16396	3453	21¼	132	7.2	23.6/16.1	100+/50	15' 11½"	43¼	39½	4/35½
16485	4235	19	125+	9.4	N/A	100/35	16' 3½"	41½	42	3¼/41½
10077	3528	22¾	117	8.5	N/A	100/70	15' 5"	41	40¾	2¾/33¼
10290	2784	21¼	116	9.8	N/A	98/70	16' 0"	41	42	4/32
10641	2792	22½	113	10.3	N/A	92/50	15' 6½"	41	41	3½/35





other hand, demand time and elbow-grease and, inside, nothing is easily removed for cleaning.

How safe

As we have said, with enough power to produce wheelspin at any legal speed, 735i drivers will need to know their oversteer from their opposite lock. Enthusiastic owner-drivers may well have the skills required for safe haste, but one wonders about the drivers of company-owned BMWs.

The big disc brakes draw assistance from the same hydraulic system as the power steering, and they proved immune to fade and soakings. For owners who worry about front-wheel lock-up, BMW offers the option of ALS — an electronic sensor system that allegedly achieves cadence braking automatically to make a wheel-locked slide impossible. We were disappointed to find that this was yet another extra that

was missing from our already expensive test car. Steep hills proved no obstacle to the hand-brake, and the door stays and engine tickover all worked normally on a 1-in-3.

Vivid acceleration and swerability are the 735i's primary safety features but, if the worst does happen, occupants are well protected. Our safety checklist is virtually one big Yes, with only the placing of the fuel tank giving real cause for concern. Interior padding is well executed, and BMW provides seatbelts for five. A nice touch is the first-aid kit concealed in the rear centre armrest, and while the rear head-restraints were criticised for obstructing vision, they do protect back-seaters from whiplash neck injuries.

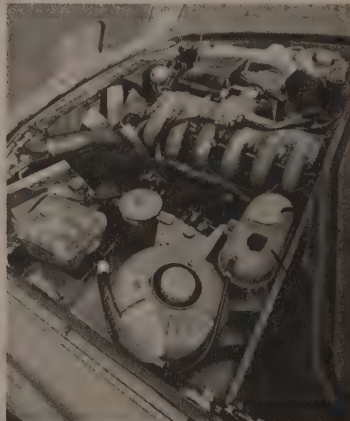
How much

Depreciation is unlikely to worry the driver who's prepared to



spend more than £16,000 on his transport, but at £5000-plus-per-year depreciation, the worry will largely be confined to company owners. Servicing intervals may be a lengthy 10,000 miles apart, with engine oil and filter replacement at the halfway stage, but the garage costs will be high. Even the most humble German cars have pretentious parts prices.

However it's driven, the BMW is no economy car, displaying the same appetite for 4-star at 70mph on the motorway as it does on a gentle rural potter. We wonder, then, how the Department of Energy's urban cycle produced 11.8mpg. It would take ragged and illegally fast driving to approach that notional figure. Our overall result of 21¼mpg is respectable for a cost-conscious limo of the 1980s.



Verdict

The 735i has rightly been hailed as one of the world's best cars. Certainly, we can think of no other saloon of this size that's got so much driver appeal when it's hurried. No doubt that's sufficient reason for the well-heeled young at heart to form a queue at BMW dealerships.

But not everyone wants to be a tearaway, and for those with a more-relaxed attitude to life, we can think of cars that are quieter and more comfortable — if less well finished. They are called Jaguar-Daimler.

ENGINE

Type and size front-mounted, 6-in-line water-cooled; 93.4mm bore×84mm stroke=3453cc; 7 main bearings; cast iron block/aluminium alloy head

Compression ratio 9.3:1

Valve gear single overhead camshaft driven by chain, actuating rockers

Fuel system Bosch L-Jetronic fuel injection from 18.7 gal tank with low-level warning lamp

Max power (DIN-net) 217.5bhp at 5200rpm

Max torque (DIN-net) 228lb ft at 4000rpm

TRANSMISSION

Clutch 9.45in diaphragm spring, single dry plate, hydraulically operated; load/travel 40lb/5in

Gearbox 5-speed (all synchromesh) and reverse. Ratios: first 3.82:1, second 2.22:1, third 1.39:1, fourth 1:1, fifth 0.81:1, reverse 3.7:1

Final drive hypoid bevel in-taper roller bearings; 3.25:1 to rear wheels

Mph per 1000rpm 27.9 in top gear, 22.7 in fourth

CHASSIS

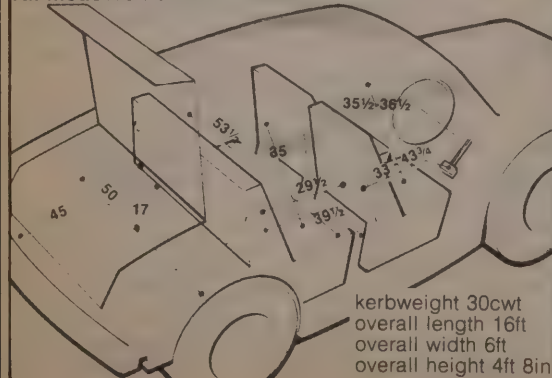
Suspension — Front: independent MacPherson struts, coil springs, lower transverse arms and drag links, anti-roll bar. Rear: independent with coil springs and semi-trailing arms. Dampers telescopic

Steering power-assisted ZF ball-and-nut, 4 turns between full locks; turning circles average 35½ft between kerbs with 63ft in response to one turn of the wheel

Wheels 6½J alloy rims with 205/70VR14 steel-braced radial-ply tyres (Michelin XWX)

Brakes dual-line hydraulic discs front and rear, with hydraulic assistance, line failure warning lamp, handbrake warning lamp, brake-pad wear warning lamp, anti-lock braking system optional

All measurements in inches





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- Weighs only 7.8 lb when empty.
- Internal volume. 0.28 cu. ft. gross (0.27 net)
- 12V operation, consumption approximately 3.5 amps per hour (cooling) or 1.5 amps per hour (heating).
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I am interested in the Electrolux Sunny Cool. Please send me more details.

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Electrolux Ltd.,
Luton LU4 9QQ.

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It doesn't matter whether you're dashing to catch the car ferry to take the family on holiday, or running late for a pressing business appointment, you can guarantee that a shattered windscreen always happens at the wrong moment.

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ring Silver Shield – Britain's fastest growing network of windscreen replacement specialists. Our distinctive Black, Red and Silver radio controlled vans are on call 24 hours a day, and carry replacements for most makes of car.

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Don't wait till it's too late, act now, cut out and post the coupon for your **FREE Instant Distress card**. It carries all

the information you need to summon up speedy reliable help when you need it most, and when you don't want to get taken for a ride.

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Please send me details of the Silver Shield Windscreen Replacement Service, together with my **FREE Instant Distress Card**.

Name

Address

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Silver Shield Windscreens.
National Headquarters,
38-42 Holbrook Lane,
Coventry. (0203) 661311

Silver Shield Windscreens. National Freefone 2278 (via the operator) or find us in Yellow Pages.

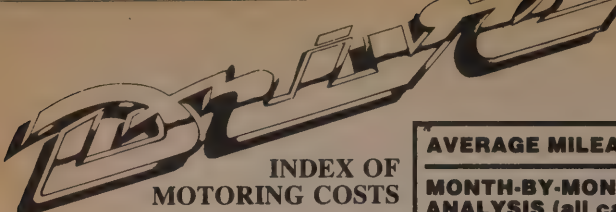
Each of the following control centres will provide a service throughout their respective Yellow Page area (approx 30 mile radius)

Brighton (0273) 594553 Bristol (0272) 655357 Colchester Braintree (0376) 24787 Coventry (0203) 661122 Cornwall Truro (0872) 560321 Exeter (0392) 77606 Glasgow (041641) 7575 Gloucester Swindon (0793) 30958 Leicester (0533) 546723 London North West (01) 907 0055 North (01) 803 4823 South West & South (01) 898 8273 East & South East (01) 590 4718 Manchester North Rochdale (0706) 53233 Northampton (0604) 585555 Oxford Gerrards Cross (02813) 84321 Reading Gerrards Cross (02813) 84321 Southend Braintree (0376) 24787 Taunton (0823) 412059 Guildford FREEPHONE 2278 Bedford FREEPHONE 2278

A number of additional centres are due to open shortly and contact can be established by dialling 100 and asking the operator for FREEPHONE 2278

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The hard bargain

INDEX OF MOTORING COSTS

MARCH 1979-FEBRUARY 1980

HERE'S THE ONLY true guide to the average motorist's expenditure on running a car. In this unique DRIVE service, 1000 owners picked each month at random are asked to declare the number of miles they have driven, the amount of petrol they've bought, and all other related outgoings.

The results of these interviews are then added to the data from similar surveys in the previous 11 months. Thus, in addition to analysing the combined experiences of 12,000 motorists each year, DRIVE's Index of Motoring Costs also succeeds in ironing-out seasonal fluctuations.

Three main areas of expenditure are highlighted — fuel, servicing and repairs (including oil for topping-up) and insurance. Road tax, motoring-organisation subscriptions, parking fees, accessories and miscellaneous items are shown as 'All other costs'. Depreciation, however, is not taken into account.

DRIVE's Index is based on motoring costs in the month of October 1973.

AVERAGE MILEAGE AND EXPENDITURE, excluding depreciation

MONTH-BY-MONTH ANALYSIS (all cars)

	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per Mile (pence)	Petrol Cost per Mile (pence)
February 1980	32.90	13.45	5.11	7.33	58.77	636	9.24	5.17
January 1980	31.63	10.22	5.04	7.76	54.64	626	8.73	5.05
December 1979	34.06	10.88	5.11	7.60	57.64	676	8.53	5.04
November 1979	33.07	13.79	5.00	8.47	60.33	685	8.80	4.83
October 1979	34.19	14.25	5.01	7.39	60.85	687	8.86	4.98
September 1979	33.76	11.38	4.91	7.93	58.02	764	7.59	4.42
August 1979	35.64	11.31	4.92	8.62	60.49	839	7.21	4.25
July 1979	34.28	17.93	5.06	8.03	65.30	720	9.07	4.76
June 1979	31.02	15.70	4.96	9.60	61.28	746	8.21	4.16
May 1979	27.05	17.93	4.86	8.91	58.75	733	8.02	3.75
April 1979	25.80	20.96	4.80	9.08	60.63	771	7.86	3.35
March 1979	24.53	21.11	4.79	9.54	59.98	686	8.75	3.58

PRESENT AND PAST ANNUAL EXPENDITURE (all cars)

Mar 1979—Feb 1980	377.93	178.91	59.57	100.26	716.67	8569	8.36	4.41
Mar 1978—Feb 1979	283.11	169.42	53.61	103.42	609.57	8991	6.78	3.15
Mar 1977—Feb 1978	292.29	148.91	44.14	97.91	584.21	8975	6.51	3.26
Mar 1976—Feb 1977	287.83	125.76	41.73	75.71	531.03	9173	5.79	3.14

'All other costs' includes expenditure on items such as road tax, parking, AA subscription, accessories

First, the good news: the cost of motoring isn't rising as fast as motoring costs. This isn't as daft as it sounds. The government's Retail Price Index shows that, since October 1973, when DRIVE launched this monthly survey, motoring prices have increased by an average 173% — just under 20% more than prices generally.

But DRIVE's Index, based on the real-life experiences of car owners, shows that, in the same period, average outgoings rose by

'only' 144% — almost 30% less than government price estimates.

The reason: motorists have been using their cars more sparingly — and, judging by the latest returns, are continuing to do so. Compared to the previous year, 'the man not on the Clapham omnibus' but driving a car covered 422 fewer miles in the 12 months ending February 1980.

Nonetheless, rising prices — petrol especially — saw to it that, despite economising, the average

owner spent £716.67 in this period, the first time that annual expenditure has topped £700. More than half of this was spent at the pumps — a rise of nearly £100 a year, despite reduced usage. Which is mainly why expenditure went up by 1.58p per mile.

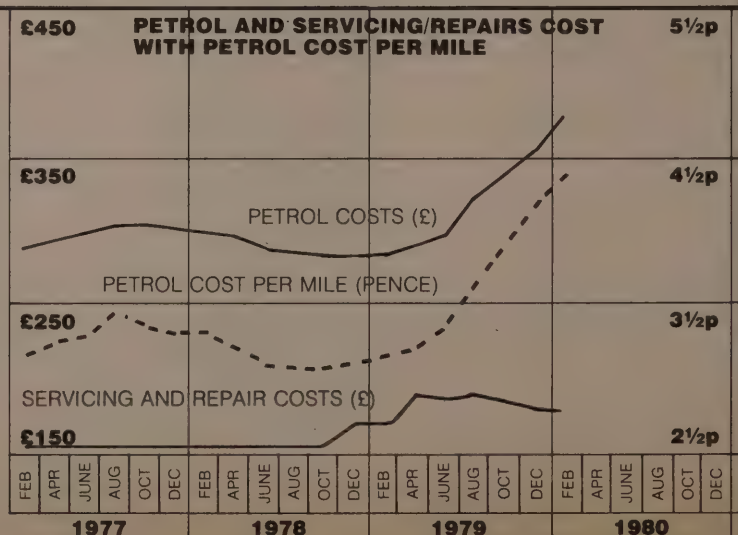
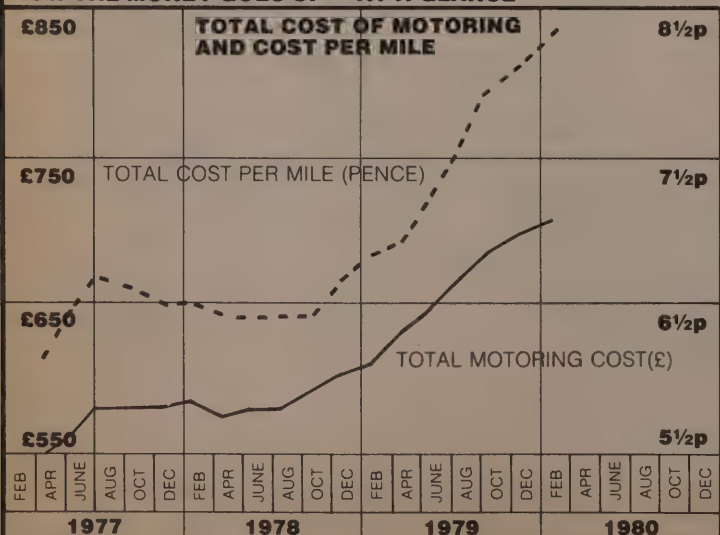
Other factors in this spiral: servicing and repairs expenditure up £9.49; insurance up £5.96; and 'other costs' — accessories, parking fees, and so on — not surprisingly down £3.16.

It pays to own a new car — at least, it does once you've paid for it. After that, as the table shows, monthly outgoings on servicing and repairs are slight, as compared to those for older models, especially in the first year, when the warranty takes care of things. By the eighth and ninth year, garage bills have multiplied six times while mileage has fallen by half.

YEAR OF REGISTRATION MONTHLY EXPENDITURE (all cars)

	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per Mile (pence)	Petrol Cost per Mile (pence)
1979	43.11	3.45	5.59	10.22	62.35	1043	5.98	4.14
1978	42.31	7.14	5.67	9.25	64.35	1066	6.04	3.97
1977	35.63	9.06	5.61	9.84	60.13	855	7.03	4.17
1975-1976	34.09	14.76	5.61	8.32	62.76	744	8.44	4.58
1973-1974	30.86	15.18	5.19	7.73	58.94	689	8.56	4.48
1971-1972	27.88	20.07	4.76	7.51	60.21	595	10.12	4.69
Pre-1971	24.08	13.06	3.81	7.36	48.30	529	9.13	4.55

HOW THE MONEY GOES UP — AT-A-GLANCE



that you drive

There's little doubt that motorists buy engines as much as shapes when they choose a car, for the use to which a car is put is reflected by its cc rating. Models with engines of under 900cc cover fewer than 600 miles a month, on average, compared to the 1000 or so miles travelled by more-powerful cars with 1701cc-plus engines.

ENGINE SIZE (post-1969 cars only) MONTHLY EXPENDITURE

	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per Mile (pence)	Petrol Cost per Mile (pence)
— 900cc	20.56	9.33	4.61	6.96	41.44	568	7.30	3.62
901—1100cc	24.61	13.22	4.75	7.65	50.21	630	7.97	3.91
1101—1300cc	30.07	12.81	4.95	7.81	55.63	725	7.67	4.14
1301—1500cc	33.55	15.50	5.21	8.73	62.97	739	8.52	4.54
1501—1700cc	39.89	12.77	5.38	9.18	67.20	863	7.79	4.62
1701cc+	47.26	13.76	6.81	10.28	78.09	965	8.09	4.90

NATIONALITY AND MAKE (post-1969 cars) MONTHLY EXPENDITURE

	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per Mile (pence)	Petrol Cost per Mile (pence)
BRITISH	34.01	14.84	5.13	8.32	62.24	773	8.06	4.40
Chrysler/Talbot	32.03	15.48	4.80	8.11	60.40	690	8.76	4.65
Ford	37.90	15.94	5.31	9.27	68.42	869	7.88	4.36
Leyland	31.82	14.15	5.14	7.66	58.75	714	8.22	4.45
Vauxhall	33.58	14.09	4.88	8.22	60.76	807	7.52	4.16
FOREIGN	32.79	10.65	5.79	8.63	57.86	758	7.63	4.32
French	32.83	12.30	5.37	8.98	59.46	747	7.95	4.39
Italian	28.50	8.96	5.92	7.07	50.43	674	7.48	4.23
Japanese	30.92	7.91	6.05	7.90	52.77	768	6.87	4.03
W German	37.01	10.45	5.88	8.36	61.68	835	7.39	4.43
Datsun	30.27	6.88	5.84	8.08	51.06	726	7.04	4.17
Fiat	26.84	8.32	5.49	7.23	47.86	653	7.33	4.11
Renault	32.87	11.15	5.37	7.58	56.95	728	7.82	4.51
Simca	27.71	9.43	4.81	6.33	48.26	603	8.00	4.60
VW	32.39	5.20	5.12	7.96	50.65	707	7.17	4.58
Volvo	47.25	11.23	7.46	10.51	76.45	891	8.58	5.31

It's a fact of motoring life that the typical UK-built car on British roads is slightly older and larger than the typical foreign car — which explains why owners of British models are paying out more on servicing and repairs. Expenditure on petrol, however, is remarkably similar — 4.40p per mile for UK cars against 4.32p.



Faithful old Rover — typically British

Only owners of two models in this list had total running costs of under 5½p per mile: the newer and high-mileage ('salesman's favourite') Ford Cortina 1600 Mk 4 (5.27p) and the Datsun Cherry (5.44p). The Cherry also leads the table on fuel (3.16p per mile), followed by Ford's Escort 1100/Popular Mk 2 and Vauxhall's Cavalier 1584 (3.63p) and another Ford, the Fiesta (3.64p). The accolade for the smallest average monthly bills, however, goes to low-mileage Fiat 500/127 owners (£37.54), followed by Datsun Cherry drivers (£38.24). New to the model-by-model table this month is Chrysler/Talbot's Alpine, making a very fair first showing at 5.78p per mile.

FORD ARE FAVOURITE — OLD AND NEW

The Top 10 new-car sellers in February (source, the Society of Motor Manufacturers and Traders) were: 1 Ford Cortina; 2 Ford Escort; 3 Ford Fiesta; 4 Austin Morris Mini; 5 Vauxhall Cavalier; 6 Vauxhall Chevette; 7 Austin Allegro; 8 Morris Marina; 9 Renault 18; 10 Talbot Horizon. The most sought-after used cars (source, Computacar) were: 1 Ford Escort; 2 Ford Cortina; 3 Austin-Morris Mini; 4 Ford Capri; 5 Renault 5; 6 Volkswagen Golf; 7 MGB; 8 Ford Granada; 9 Volkswagen Beetle; 10 Triumph Dolomite.

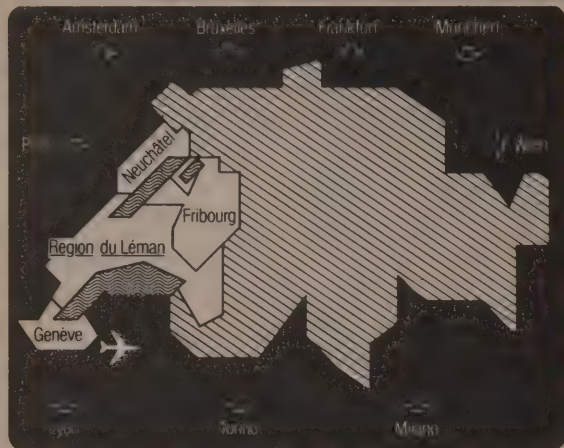
MODEL-BY-MODEL ANALYSIS (post-1969 cars) MONTHLY EXPENDITURE

	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	All Other Costs (£)	Total (£)	Mileage	Total Cost per Mile (pence)	Petrol Cost per Mile (pence)
Austin-Morris Mini 850	19.12	16.55	4.34	6.65	46.64	466	10.02	4.11
Mini 1000	20.65	7.64	4.68	7.92	40.88	549	7.45	3.76
Allegro 1275	30.40	16.64	4.68	6.84	58.55	749	7.82	4.06
Maxi 1750	35.42	19.08	5.20	8.04	67.72	752	9.01	4.71
Marina 1300 Mk I	27.61	11.17	4.62	7.59	50.97	641	7.95	4.31
Marina 1300 Mk II	32.73	2.33	4.72	8.21	47.98	817	5.87	4.00
Marina 1800 Mk I	31.15	22.60	5.19	9.92	68.84	721	9.55	4.32
Marina 1800 Mk II	42.08	6.81	5.27	7.66	61.80	955	6.47	4.41
Princess	51.01	6.75	5.91	8.69	72.34	1127	6.42	4.53
Chrysler/Talbot Avenger	32.54	15.64	4.69	7.73	60.58	679	8.93	4.80
Hunter	28.47	29.02	4.74	6.45	68.66	618	11.12	4.61
Alpine	40.01	7.36	5.45	8.56	61.37	1063	5.78	3.77
Datsun Cherry	22.23	3.45	5.40	7.19	38.24	703	5.44	3.16
Sunny	28.31	7.52	5.64	10.02	51.48	726	7.09	3.90
Fiat 128/124	26.72	3.36	5.58	7.31	42.95	700	6.14	3.82
500/127	20.44	6.12	4.65	6.36	37.54	537	6.99	3.81
Ford Escort 1100/Popular Mk 1	26.74	30.25	4.47	7.92	69.38	570	12.17	4.69
Escort 1100/Popular Mk 2	34.35	14.47	4.95	7.00	60.75	947	6.42	3.63
Escort 1300 Mk 1	28.63	30.09	4.77	7.24	70.72	609	11.61	4.70
Escort 1300 Mk 2	37.64	13.21	5.01	10.99	66.83	952	7.02	3.95
Fiesta	29.68	6.84	5.26	7.69	49.45	814	6.07	3.64
Cortina 1300 Mk 3	38.04	17.41	4.54	8.31	68.28	751	9.10	5.07
Cortina 1600 Mk 3	36.83	20.62	5.10	10.77	73.29	779	9.41	4.73
Cortina 1600 Mk 4	53.44	4.75	4.76	10.43	73.37	1392	5.27	3.84
Cortina 2000	44.04	12.88	6.68	8.43	72.01	1048	6.87	4.20
Capri 1600	35.90	5.93	5.69	9.64	57.15	903	6.33	3.98
Granada/Consul	47.02	9.79	6.82	7.95	71.57	1105	6.48	4.25
Renault 4/5/6	26.34	17.10	4.92	6.86	55.21	675	8.18	3.90
12	30.52	4.20	5.05	6.34	46.10	641	7.20	4.76
15/16/17	43.81	10.29	5.85	8.65	68.59	893	7.68	4.90
Rover 2000/3000 (pre-1976)	51.62	20.30	6.50	7.14	85.55	832	10.28	6.20
Triumph Toledo/Dolomite 1300	31.64	15.35	4.76	5.96	57.70	713	8.09	4.40
1500/Dolomite 1500	34.70	19.63	4.83	7.70	66.83	643	10.39	5.40
Vauxhall Viva 1256	26.88	15.98	4.58	7.27	54.70	707	7.73	3.80
Chevette 1256	32.52	6.45	4.75	9.07	52.78	846	6.24	3.84
Cavalier 1584	42.34	10.79	5.61	10.46	69.18	1168	5.92	3.63
VW Beetle	25.78	5.13	4.31	6.45	41.66	534	7.80	4.83
Golf/Polo	34.14	5.84	5.29	7.34	52.60	830	6.34	4.11

NB: Different usage patterns and sample sizes could account for some of the small variations, in particular areas, in expenditure on certain makes and models

Switzerland

LAKE GENEVA REGION



A Wide Choice of Excursions...

The Lake of Geneva Region, in the south-west of Switzerland, offers all the conditions necessary for "made to measure" holidays. Excellent roads and comfortable trains bring within easy reach all parts of this particularly lovely district. The chain of the Alps, first of all — with well-known resorts like Villars, Leysin, Les Diablerets, Château d'Oex and Les Mosses — and the Jura range with Ste. Croix-Les Rasses, the Vallée de Joux and St. Cergue. It also boasts several lakes, including the Lake of Geneva with the well known international towns of Geneva and Nyon, Rolle, Morges, Lausanne, Vevey and Montreux along its shores, and the lake of Neuchâtel with Yverdon-les-Bains. Finally, lovely countryside between the Alps and the Jura, in particular in the region of the Broye, completes the choice offered by this very diversified district.

Naturally there are opportunities too for countless excursions, such as to the lake in the Vallée de Joux (at an altitude of 3,300 feet), the Orbe caves at Vallorbe, the Roman remains at Avenches, the Abbey of Payerne (11th century), or Lausanne Cathedral (13th century) and the St. Pierre Cathedral (12th century, now in restoration) in the heart of the old town. The chateaux of Coppet, Nyon, Morges, Aigle, Grandson and Lucens each has its own museum, while the Château de Chillon remains one of the most popular castles in Europe, with the largest number of visitors.

The remarkable panoramic view from the Rochers-de-Naye allows visitors to admire the whole of the Lake of Geneva, while a cruise on the lake is an invitation to discover, in a very pleasant, relaxing way, picturesque lakeside towns such as Morges, Nyon, and Rolle, to mention but a few.

The Lake of Geneva Region offers facilities for sports of all kinds, with many covered and open-air swimming pools, artificial skating rinks, tennis courts, riding centres, golf courses — including an Alpine course at Villars — and beaches. It is also possible to ski in mid-summer on Les Diablerets glacier (approx. 10,000 ft.) and, for the more adventurous, even to go hang-gliding.

The Lake of Geneva Region is also a big centre for art and culture. The international festivals of Lausanne (classical music), Montreux (jazz) and Nyon (folk music), the Villars Rendez-Vous (folklore) and the "Concours international d'exécution musicale" in Geneva are but a few of a very wide range.

3 Nights from £20: (S.Fr.69.-) is one of the hotel arrangements offered by the tourist offices of the Lake of Geneva Region, comprising accommodation in twin-bedded rooms, breakfast, taxes and service charges included. This basic offer is completed by a whole range of attractive and inexpensive package arrangements.

From Water-Skiing to Alpine Skiing...

Did you know that the Lake of Geneva Region offers one feature that is probably unique of its kind in the world? In less than two hours, it is possible to switch from water skiing on the lake to Alpine skiing on the everlasting snows of the Les

Diablerets glacier, at a height of nearly 10,000 ft., which is easily reached by aerial cableway, and has a high altitude restaurant overlooking a magnificent Alpine panorama.

Fribourg-Neuchâtel Region

The canton of Fribourg contains many historic towns, including its capital, Fribourg, and the charming cities of Morat, on the shore of the lake of the same name, Estavayer-le-Lac, on the shore of the lake of Neuchâtel, and Romont, Bulle and Gruyères in the Fore-Alps. It is also renowned for the lovely, still-picturesque regions of Charmey, Moléson and the "Lac Noir" (Black Lake).

Neuchâtel is a canton of mountains — with the Jura range; and water — with the lakes of Neuchâtel and Bienne, La Chaux-de-Fonds, Switzerland's watchmaking capital, and Le Locle, the city of precision engineering, are surrounded by large woods and pastures, while Neuchâtel, an historic town for studying and holidays, is ideally situated on the shores of the lake that bears its name.

Information

- Swiss National Tourist Office, Swiss Centre, 1 New Coventry Street, Tel. 01-734 19 21 - TX 21295 Swisturist ldn. P.O. Box 10, Wardour Street, London W1V 4BJ.

- Office du tourisme du Canton de Vaud, avenue de la Gare 10, CH-1002 Lausanne, tel. 01041/21/22 77 82, TX 24390.

- Office du tourisme de Genève, rue de la Tour de l'Île 1, CH-1204 Genève, tel. 01041/22/28 72 33, TX 22 795.

- Office neuchâtelois du tourisme, rue du Trésor 9, CH-2000 Neuchâtel, tel. 01041/38/25 17 89.

- Union fribourgeoise du tourisme, route Neuve 6, CH-1700 Fribourg, tel. 01041/37/23 33 63, TX 36499.

Booking (Through your travel agency or the local tourist office).

Lake Geneva Region

The lake of Geneva

CH-1211 Genève
CH-1260 Nyon
CH-1180 Rolle
CH-1110 Morges
CH-1006 Lausanne
CH-1605 Chexbres
CH-1800 Vevey
CH-1820 Montreux

The Broye

CH-1530 Payerne

Nord vaudois

CH-1400 Yverdon-les-Bains
CH-1450 Ste-Croix-les-Rasses

The Jura

CH-1347 Vallée de Joux/Le Sentier
CH-1264 St-Cergue

The Alps

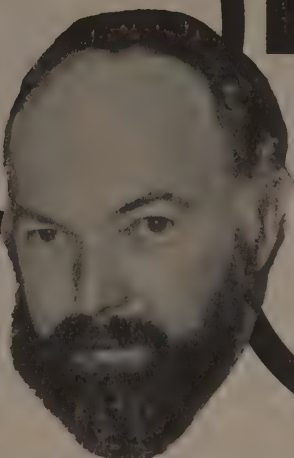
CH-1837 Château-d'Oex
CH-1865 Les Diablerets
CH-1854 Leysin
CH-1861 Les Mosses
CH-1884 Villars

Fribourg-Neuchâtel Region

CH-1700 Fribourg
CH-3280 Morat
CH-1630 Bulle
CH-1661 Gruyères-Moléson
CH-1637 Charmey
CH-2000 Neuchâtel
CH-2300 La Chaux-de-Fonds

2015

and the priceless cars of today



How would you like to own a vintage car? Well, chances are you already do. For if you can keep your Mini or your Beetle in good shape, you — or your grandson — could one day be sitting in a fortune. MICHAEL WORTHINGTON-WILLIAMS, head of Sotheby's Veteran and Vintage Vehicle Department. (above), tells what makes a 'collectable' car, and gives his Top 12 Tips for the cars of today that his successors will be selling in the Sotheby's of year 2055 . . . when the AA celebrates its second 75th anniversary

year 2055 will be collected simply because it's there.

The erosion factors

Whichever cars survive over the next 75 years, one thing is certain: it is going to be far harder to restore them than has been the case with the present vintage and veteran crop. The fact is that today's cars — tomorrow's veterans — although better designed than their predecessors, are less robust. And today's better roads, faster speeds, lighter bodies and mass-production will take a toll.

Rust, too, will be an increasing factor. Most body panels are of a far thinner-gauge metal than before the war, and, although rust-protection techniques are undoubtedly improving, this means that once the tinworm has a hold it has less eating to do.

The monocoque construction of post-war cars — integrated body and chassis — will aggravate major rebuild problems where rust is deep-seated. On the other hand, advanced technology, unknown to today's car collectors, may improve matters to some extent.

And there may, of course be even greater problems, of which our own recent experience has given us but an inkling. If, for instance, fossil fuels have been either exhausted or severely rationed by 2055, collectors-cars of all categories and ages could be confined to static displays in museums and private collections. But I imagine — perhaps optimis-

tically? — that this will *not* be so.

Legislation to control exhaust pollution, well advanced in countries such as N America, could affect the owners and operators of collector-cars 75 years from now, but we have already established precedents that give dispensation to vehicles manufactured before certain dates.

A far more serious threat, perhaps, will be the continuing — and necessary — preoccupation with safety, which demands special exemptions for the collector-car. The MoT test and its equivalents in other countries place heavy pressures on early vehicles. In certain places, restrictive legislation already prevents the everyday use of vintage and veteran cars on public roads; and in Gt Britain, the six-month-minimum, non-refundable road fund licence would force UK owners of collector-cars to apply for inclusion in a special category . . . and could, in time, attract more-sinister attention from the Inland Revenue.

In truth, the chances of *any* of today's cars lasting (in restorable form) to satisfy the demand that will undoubtedly exist in 2055 are considerably less than those for, say, a car built in 1905 and 'discovered' in 1980.

Apart from anything else, there are the changing living habits of man. In 1905, most cars belonged to the aristocratic, merchant or professional classes, and all enjoyed spacious and comfortable homes or estates. Families

rarely moved, and redundant household items, which included cars, were often merely relegated to the back of the motorhouse rather than the scrapyard.

Today, the average family lives in a semi-detached house with perhaps one lock-up garage, and moves every seven years. The chances of *anything* unwanted, let alone a redundant car, surviving the frequent moves are slim.

Car builders, too, are attuned to change: while in-built obsolescence is a strong term, there can be no doubt that the average modern vehicle is designed to last only as long as the average user wants it to last; beyond that date, the economics of keeping it on the road will decide what 'natural wastage' will take place. The collector of 2055 will have also to contend with this attitude — which by then surely will have assumed alarming proportions.

It goes without saying, everything currently available from the houses of Rolls-Royce and Jaguar will not only be eagerly sought-after but well represented, and I have deliberately omitted specific reference to these two marques in my Year 2055 selection overpage.

Whatever the prejudices of today's collector-market, I can predict confidently that the passage of three-quarters of a century will effectively erase them. Just as today's enthusiast happily turns a blind eye to the shortcomings of a dull and stodgy 1920 Angus-Sanderson, built like a concrete midden and with little else to commend it, so will all the unloved, pre-selector Daimlers and Armstrong-Siddeleys of the post-war period find wildly appreciative homes in 2055.

If, however, you can continue to keep your Ford Escort running for 75 years, your grandson may bless you just as much.

THE MOTOR CAR is not yet 100 years old, and yet, for the past 50 years, certain cars have become objects not of utility and mere transportation but of loving care and adulation — valuable works of art, rare pieces of cherished antiquity.

The passion for old motors is a 20th-century phenomenon, and, like most phenomena, it is difficult to explain. Perhaps it began with the natural desire of men — and women — to hang on to those things that recapture the atmosphere and essence of youth, tangible reminders of rose-coloured times past. But it has continued, through generations of people and generations of cars. And today, whereas it was once only the old who reminisced with glistening eye, there are hundreds of teenagers who, having acquired their first driving licence, can barely contain their ambition to own a car of the 1950s.

Contenders for survival

'Collectable' cars fall broadly into four categories: bread-and-butter, fun, sporting, luxury. Fun cars and sporting cars are purpose-built to evoke sensations — affection and loyalty — and those same enthusiasms will ensure their survival. Luxury cars will survive for several reasons, not least their initial cost: owners ensure that their sizeable investments are well cared for. In-built quality will also ensure longevity, and the conservatism of both cars and owners will prevent them being 'dated'.

Bread-and-butter cars survive usually by a combination of the law of averages — if they are built in millions, they will survive in hundreds — plus outstanding design, sound construction and the accidents of fate.

It is a pretty safe bet, however that any car that survives until the



VANDEN PLAS PRINCESS R

Already a deluxe version of Austin's 2.9litre six-cylinder saloon, the Vanden Plas Princess underwent something of a metamorphosis in 1965. The new R was luxuriously appointed, boasted automatic transmission as standard equipment, and carried beneath its bonnet a 3.9litre six-cylinder Rolls engine producing 175bhp. Which means that, today, you can buy a Rolls-Royce-engined car for less than £1500. Why the R never caught on — it was discontinued in 1968 — is not clear, but there is a school of thought that says it never was intended to be a permanent addition to the Princess range, but was merely a convenient receptacle for surplus engines from the Champ, Austin's abortive, Jeep-type military vehicle. Never encountered in great numbers, the R is now relatively rare but still cheap: reasonable examples sell for £1000-£1500. It will be eagerly sought by our grandchildren.



JENSEN INTERCEPTOR

Coachbuilder Jensen of W Bromwich always managed to combine the best of other people's components with its own attractive and well-made bodywork, and its first and last products were powered by American engines. The Anglo-American hybrid is, in fact, a 1930s concept that once embraced names such as Brough-Superior, Lamman-Graham, Atalanta and Railton. With the comparatively recent demise of Jensen, only 'new-boy' Bristol — b1947 — carries on the tradition, and builds only in penny numbers. As the only pre-war survivors into the 1970s, all Jensens deserve to be preserved: their combination of European styling and handling with high-powered, understressed American engines will be as valid in the years to come as now, and Jensen's superb styling will not date.



FIAT X1/9

Launched in the UK in February 1977, the Bertone-designed X1/9 has been described as 'the car that the Triumph TR7 ought to have been' — unfair to the TR7, perhaps, but a sad commentary on the decline of the British sports car over the past decade. With the death of Austin-Healey and Jensen-Healey, and clouds over MG, it is comforting to know that a car giant such as Fiat is still prepared to devote production space to such a specialised vehicle. If the X1/9 survives, it probably will be because its wedge-shaped, two-seater body design was well ahead of its time and is unlikely to date. In either 1300cc or 1500cc-engine form, it will travel as fast as traffic conditions half a century hence are likely to permit. And though future regulations will undoubtedly curtail sports-car manufacturers, the X1/9 will hold its own.



ROVER P4

Although the last 2.6litre Rover P4 reached the end of the production line some 16 years ago, the whole of the series — from the Cyclops-headlamped 75 of 1950 to the last 105S — was so beautifully engineered that models are still encountered on the roads every day. Beloved of retired bank managers, the P4 gained the undeserved nickname of 'Aunty Rover': even in old age, suitably loosened-up, it can be quite indecently fast. In the early 1970s, this propensity for speed allied to robust construction consigned many to a premature grave on the stock-car circuit. Mercifully, such folly is now all but past, and the recent formation of the P4 Rover Drivers' Guild seems likely to ensure proper preservation of the survivors. The fact is that the P4 will not wear out; true, it gets a little thirsty with the passing years, but some earlier examples are still giving good service after 250,000 miles.



MESSERSCHMITT CABIN SCOOTER

Designed as a serious vehicle for an austerity era, and given a boost by the petrol shortages of the 1956 Suez crisis, the bubble-car was something of a mutation in small-car evolution that may be likened to the Edwardian three-wheeler. Small and quaint by today's standards, most have in old age acquired the status of fun cars. But the four-wheeled version of the Messerschmitt FMR Tg500 (Tiger), looking remarkably like the cockpit of one of Willi Messerschmitt's ME109 fighter aircraft, ranks equally well in the sporting class... even though it was originally designed as an invalid car. With the energy crisis unlikely to go away, it may be that the three- and four-wheeled 'bubbles' of the 1950s will look even more at home on the roads of the mid-21st century than they did before the introduction of the Mini.



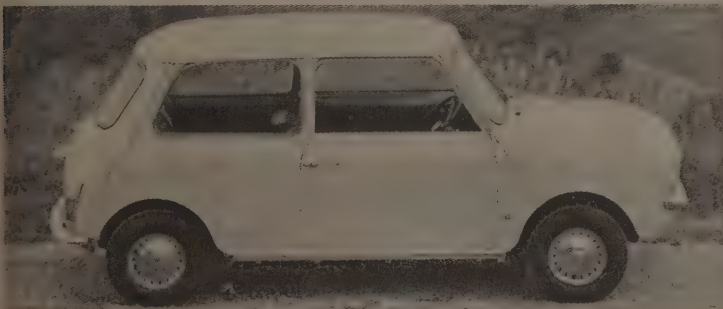
ALBANY

Albany command special attention in the replica-car world insofar as they are made with far greater attention to detail and quality than many others, and by a company whose main interests lie in the construction industry. At 50 paces, the Triumph Spitfire-engined Albany roadster could be mistaken for a true Edwardian, and, since early models were powered by the Morris Minor 1000 engine, spares problems are unlikely for many years to come. The fact that the Albany is also offered in van form — making it familiar through local delivery work — will also help ensure survival for a marque that has the distinct advantage of being instantly 'collectable' from the moment of leaving the Dorset factory in which it is built.



CITROËN 2CV

The habit of French farmers of keeping ancient vehicles on the road with a combination of faith, hope and binder twine has nothing to do with sentiment: frugality is a national characteristic. The ubiquitous deux chevaux has captured exactly the essence of this agricultural puritanism. Uncompromising in its ugliness, it nevertheless — or perhaps consequently — has an undoubted charm all its own. Not only that, the corrugated-iron, garden-shed exterior of the commercial models, and the flat, cheap-repair panels of the 'modern' version, encase a roomy body and a willing and economical engine capable of 70mph. For originality and versatility alone, the deux chevaux deserves to survive (and the chances are, of course, that Citroën will still be making it in 2055!).



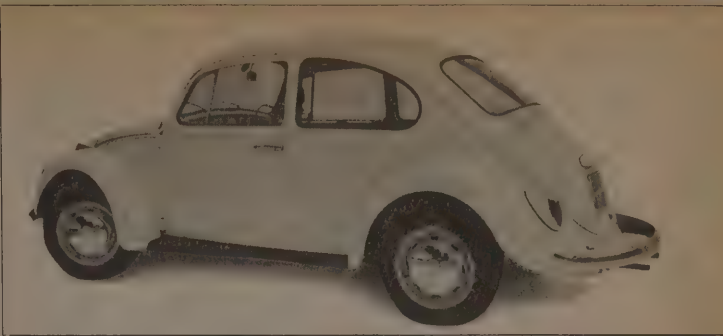
MINI

Alec Issigonis is a visionary as well as a car designer, and his transverse-mounted front-wheel drive Mini of 1959 set the trend of small-car design for the second half of the 20th century. The lineal descendant of the seemingly immortal Austin Seven, the Mini has in fact been in production longer — 21 years, continuously — combining good performance, sporting potential and economical family motoring. Equally at home at a point-to-point, outside a yellow front door in Chelsea and in a factory carpark, it is, like its predecessor, entirely classless. Small cars have a better chance of long-time survival than larger ones in the lower price brackets, since they can more easily be stored. And, with living space already at a premium, this could be a crucial factor in the 2055 survival stakes.



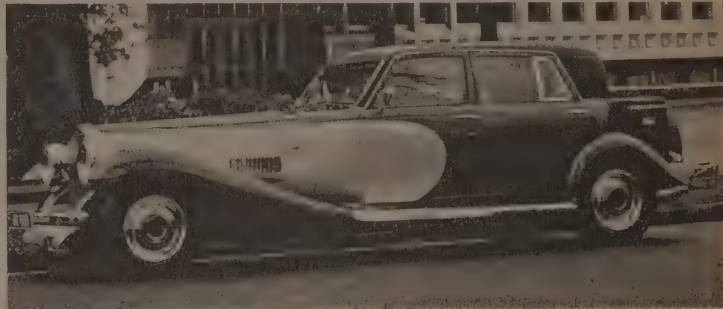
MORRIS MINOR CONVERTIBLE

No excuses for including another Issigonis design in this choice of cars. In its way, the Minor was just as revolutionary in 1948 (when the prototype, codenamed Mosquito, first appeared) as the Mini was in 1959, introducing a totally new concept in small-car comfort... and it looked less out of place at the end of production in 1970 than it did when introduced. History has shown that an ability to adapt is the only guaranteed insurance against extinction, and there can be no doubt that a reasonable number of these homely, dumpy little 'jelly moulds' will still be giving good service in the 21st century. Why the convertible version? Well, it was the least-numerous of the many Minor models, was the first to be phased out of production, in 1969, and mint examples are made rare by the ease with which rain can rot the interior.



VOLKSWAGEN BEETLE

If ever one car illustrated that category of bread-and-butter motoring — outstanding design combined with robust construction — it must be the VW Beetle. In continuous production since before World War 2 (and still made, in parts of Africa), the Beetle parallels the indestructible Ford Model T. Like the T, it is the only car ever to have exceeded a production of 15million units; its basic specification has remained unchanged; and VW's boast that 'a Beetle is its own garage' echoed Ford's addiction to stove enamelling to ensure a long-lasting paint job. The horizontally opposed engine, which, in full cry, sounds at best like a bag of rusty nails in a tumble-dryer, will happily complete 100,000 miles with no more than the odd new sparkplug. That plentiful examples will be around in 2055, I have no doubt, but you could do worse than 'lay down' a more-rare convertible Beetle for your grandson.



PANTHER DE VILLE

Egotist he may have been, but it is doubtful that Ettore Bugatti would have been much flattered by Panther-creator Bob Jankel's replica tribute to his folie de grandeur, the Bugatti Royale. Outwardly, the Panther de Ville resembles an open tower of the 1920s, with Bugatti-style radiator, and its main advantage is that it combines all the eye-catching appeal of any early car with the mechanical reliability and handling of a modern. Because it falls into the category of a fun car, however, there will always be enthusiasts willing to espouse it, and, like it or hate it, there can be no doubt that it is as representative of the growth of nostalgia in the 1970s and 1980s as anything could be. An ultimate indication of individuality and wealth, I predict that the de Ville will carry the same message to onlookers in the next century.



ASTON MARTIN V8 VANTAGE

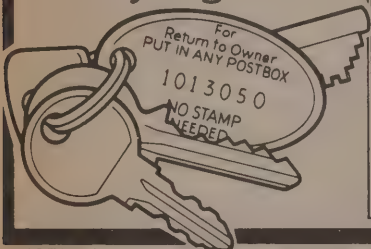
If ever proof were needed that a car built for enthusiasts can be sustained through successive business crises by enthusiasm, then Aston Martin surely proves it. Through several company reconstructions, the product has emerged each time better than before, and now enjoys a world wide following that has never been stronger. Combining luxury with high performance, it straddles comfortably the usually yawning gap between formal and sporting carriages, and it is inconceivable that its 1980s appeal to the high-powered executive will be any less with the passage of a mere 75 years. For those requiring something even more formal, the £50,000 Aston Martin Lagonda bounds confidently straight into the 21st century, with its advanced styling and specification and computerised controls.

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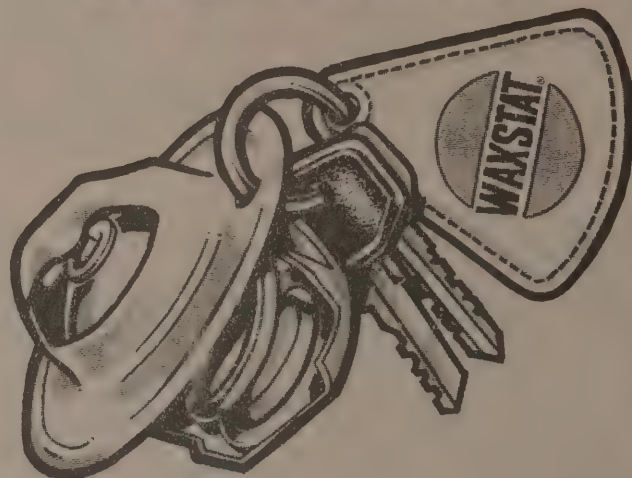
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Olde-worldde charmers

AN INCREASING number of ex-motorcyclists are returning to two wheels, most holding fond memories of thudding through warm June days on solidly built singles made in Birmingham or Woolwich. For these traditionalists, the modern two-wheeled world of Japanese high-revving, complex multis holds few charms. These types grew up in an era when bikes were simple and riders did their own servicing; but what can you do with the twin-overhead-camshaft, four-cylinder, four-carburettor, six-

gear machines now favoured?

One answer is to ignore them and buy a good, old-fashioned thudder such as the Enfield 350 or the MZ 250/1 Supa 5.

MZ 250/1 Supa 5 Price £506

The best motorcycle to write about is a really bad one: it supplies so many meaty points of interest that readers feel satisfied they are being told the awesome truth. By the same token, the worst is that rare machine, the perfect bike: it suggests either naivety or dishonesty on the part of a tester to say that he found everything good.

This is the case with the MZ — an E German motorcycle that's as modern as a sophisticated Japanese sportster, but with all the flavour of vintage motorcycling. The thing is such a peach of a bike that it's an embarrassment.

True, the 6v, 45/40w headlamp is barely strong enough, and British-made tyres would give more secure wet-weather adhesion, and . . . er . . . ah, yes — seat padding is rather skimpy. But, after that, there is little to write about except good things.

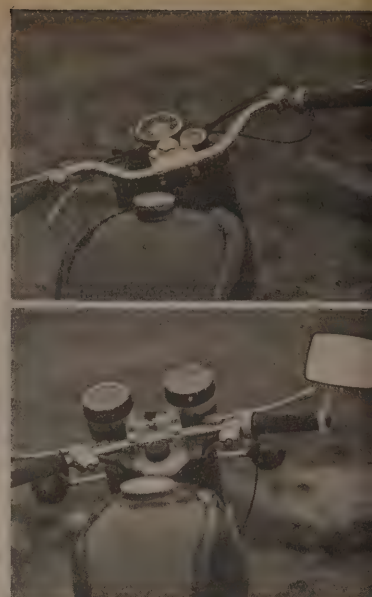
Motorradwerke Zschopau's biggest headache all along has been

its Communist-bloc background: people with experience of low-grade products from that part of the world lump everything together. But such rough justice overlooks the fact that the MZ is German-built.

MZ's chief engineer is Walter Kaaden, the father of the modern two-stroke; every two-stroke maker in the world today pays homage to his operational principle by using it. His present range of MZs began life in the late 1950s, when the company took over the old DKW factory to concentrate on building lightweights. By the mid-1960s, Western motorcyclists were demanding more and more of the robust and functionally efficient little machines, even though MZ was suffering the Iron Curtain malaise of weak engine bearings, brittle chains, crude carburettors and ignition systems and low-grade rubber and soft plastics. British buffs, however, recognised the fundamental soundness of the bikes and simply rectified the problems themselves.

When the 250/1 — MZ's first five-speeder — was launched, a couple of years ago, it incorporated all the improvements necessarily to turn it into an extraordinary fine motorcycle. A new cylinder head and piston combined with a new exhaust system to improve power, economy, smoothness and silencing; improved ignition and carburation provided better starting and reliability; and the old bugbear of bearing failure was overcome.

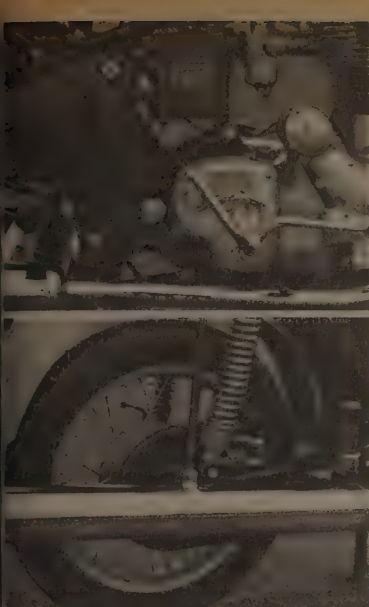
By some standards, the machine is old-fashioned. The



engine is lubricated by a 50:1 petrol mix, with neither reed nor disc valve to assist its breathing; a 6v dynamo (crankshaft-mounted) supplies electrical power; there is no electric starter; and both brakes are mechanically operated drum-type. All-in-all, the Supa 5 is good, solid, meat-and-potato pie throughout.

From the twin-tube spine frame hangs the soft-rubber-mounted engine — a system that more manufacturers would do well to copy for a totally vibration-free ride. Apart from the huge and very efficient silencer that takes up three-quarters of the total exhaust system length, the normal two-stroke intake howl is muted by an equally large induction silencer and filter. Great

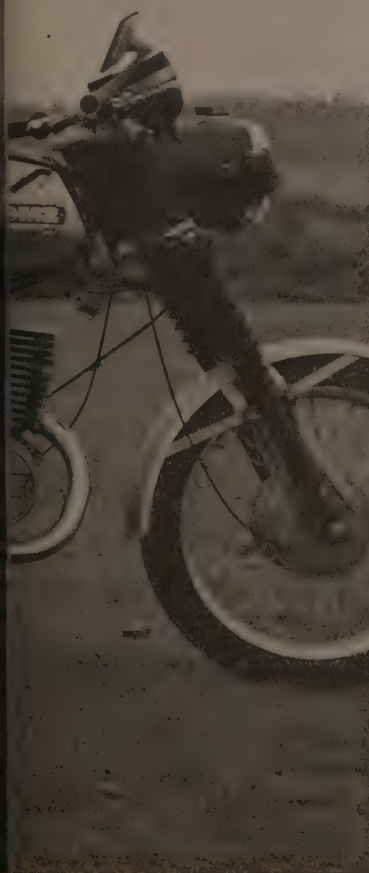




pains have been taken to ensure low engine noise, and a strongly made rear-chain enclosure eliminates all 'thrash'.

Such admirable practicality is often penalised by poor performance, but the Supa 5 maintains a spanking pace to keep up with all but the fastest sports 250s over ordinary roads. The best of it is that the MZ's performance is continuously usable over huge mileages because of its quietness, smoothness and high-gear, low-revving engine.

Acceleration is hard and fast to 70mph, at which point it begins to ease off until the 80mph limit. This speed can, however, be



maintained as long as hill and headwind allow, without harm to the engine. The best cruising speed is 65-70mph, when 75-80mpg can be achieved regularly — not bad consumption for our 200lb-worth of test rider in bulky winter storm-suit sitting upright.

Through town, the two-stroke single is as docile and manageable as a well-oiled bicycle... although our man did notice the thinly padded seat after three hours of riding; not even the long-action, soft suspension can obviate this. The rear units are two-way load adjustable, complete with permanent adjuster handles — a thoughtful touch. No motorcycle, whatever its price, is equipped with better suspension.

Much the same comment applies to the finish. Paintwork far exceeds the quality supplied by the Japanese and Italians, and the aluminium castings are of the finest material and finish. The rear-chain enclosure and air-filter box are plastic but immensely strong, comparing well with good-quality aluminium.

Switchgear is simple but effective — an up/down dipswitch on the left handlebar, and a matching turn-signal switch on the right bar. Both could be worked reliably by heavily gloved, cold hands — the real proof of a switch's quality. Alongside the speedometer is an accurate rev counter — albeit somewhat unnecessary on such a low-revving engine.

A 160-mile trip down the Pennines proved the old-fashioned drum brakes' quality — despite unending rain, they retained their efficiency, even when left unused for many miles at a time.

MZ makes old-fashioned motorcycles, but old-fashioned can also mean low running costs, high-quality construction and finish, without sacrificing silence, smoothness and handling.

Its nicest old-fashioned quality, however, is its price. The MZ's latest 250cc rival from Japan is the Kawasaki Z250, at around £1000. Need we say more?

Enfield 350 Price £799

There was a time when starting a motorcycle was a much-loved ritual — a discipline that guaranteed first-kick firing. The carburettor had to be 'tickled', the engine 'primed', and the piston 'placed' while using the decompressor — then a long, swinging, follow-through kick to ensure that the heavy flywheels punched over the compression stroke, and not your leg, and, bang! you were off, while others were still kicking and misting up their goggles.

Astonishingly, this ritual is still with us today, in the shape of a

HOW THEY MEASURE UP

ENFIELD 350

MZ 250/1 SUPA 5

Engine	Air-cooled ohv 4-stroke single 346cc 18bhp at 5625rpm (SAE)	Air-cooled 2-stroke single 243cc 21bhp at 4600-5600rpm (SAE)
Capacity Output		
Transmission	4-speed exposed chain	5-speed enclosed chain
Kerbweight	359lb	323lb
seat height	28in	29in
max width	27in (handlebars)	24in (handlebars)
max length	82.5in	81.6in
Fuel tank	3.1gal/214 miles plus 2.2pt reserve	3.5gal/268 miles plus 2.2pt reserve
Mpg — overall	69mpg	76mpg
quiet use	88mpg	89mpg
suburban use	83mpg	83mpg
brisk use	67mpg	81mpg
hard use	61mpg	77mpg
Performance — max (upright)	72mph	80mph
0-50mph	11.2sec	9.2sec
30-50mph (top)	13.8sec	12sec
Warranty	6 months/6000 miles parts and labour	6 months parts and labour

licence-built example of the long-dead Royal Enfield 350cc Bullet. The present model comes from a factory in Madras, India, that has been turning out Enfields almost since the now-defunct Redditch-based British factory started production in 1949.

Major components are from the 1949-1953 Bullet — frame, engine, suspension, wheels and brakes; the next series of Bullets supplied the gearbox, fuel tank and seat; from the last has come the electrical system — in part.

The old Royal Enfield slogan was 'Built Like A Gun', and a large part of this holds true for the Enfield 350. To the casual observer, a careless finish appears to contradict such a claim: aluminium castings are left bruised and grazed where casting flash has been crudely ground off, the paint finish doesn't have the deep, liquid polish of either old or modern machines, electrical wires are thoughtlessly routed and aluminium polishing misses a few awkward spots.

Closer inspection, however, reveals qualities that few, if any, modern motorcycles possess. The aluminium alloy of the major engine castings, the steel of the frame and the welded joints holding it all together are of an almost-forgotten quality. An even closer look reveals red lead under the black enamel paint and grey primer beneath that.

Riding the Enfield reveals even more of its 30-year-old characteristics. A pair of monstrously heavy flywheels, a compression ratio of a mere 6.5:1, a diminutive lin-throat carburettor, and a set of cams that barely lift the valves from their seats all combine to create enormous low-speed torque. But, as younger riders of DRIVE's test bike discovered, all this brings initial problems.

Machines of this type use gearing that, by modern standards, is unbelievably high. The Enfield's bottom gear is the same as Honda's 1000cc Gold Wing, and top gear approximates to Suzuki's 750cc sportster. Modern riders tend to slip the clutch when

pulling away from a standstill — a hasty action that, on the Enfield, causes the fretting clutch to swell, drag and even slip... all at the same time! Fortunately, an otherwise impossible-to-locate neutral can be immediately selected by a deft twitch of the right heel on a special lever.

Once the necessity to drop into neutral at every halt is accepted, traffic handling becomes trials-machine-like, thanks to the pleasant power characteristics, light controls and fine handling.

Out of town, the ride improves further. Stability is unusually good for such a light motorcycle, although the abominable Ceat (India) tyres cause wander and weave at every irregularity. The pace is leisurely and refuses to be rushed.

Our younger riders, more used to the high-frequency harmonics of modern machines, complained of 'coarse vibration', but experienced bike buffs realised that the old annoyances of vibration and/or oil leaks were fair.

To pretend that everything old is good is, of course, nonsensical: the barely altered frame of the 30-year-old Enfield creaked at numerous joints; the front brake is barely adequate solo and, with two-up, unsafe (the adoption of a British-made brake lining largely cures this last problem); the headlamp's meagre 6v, 30/25w beam is scarcely enough for 50mph in safety; and the short, stiff action of the rebound-only damped suspension underlines the progress that motorcycles have made in recent years. On the other hand, the extremely good riding position provides excellent comfort, and mudguarding that actually works is a rare treat these days.

The Enfield 350 is by no means a living fossil, but a motorcycle well worth considering. And if you are one of the growing band of people who yearn for bakelite radios playing big-band music, trolleybuses and dirty fingernails, you really must try it. This is motorcycling as it *really* was — warts and all. DAVID MINTON

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Visa v the rest—no contest

Citroen rarely launches a new model, especially at the cheaper end of its range. Its Dyane is now a teenager, and the 2CV6 is the oldest car design that's still in European production. But you've got to admit that, when this French giant does produce, the result is never *comme ci, comme ça*. Its styling has always been adventurous and its engineering inventive: it was Citroen that pioneered front-wheel drive, low-drag bodies and hydro-pneumatic suspension.

The snag is that pioneering's expensive, as Citroen discovered when it was forced into the arms of conservative, keep-it-simple Peugeot in 1974. And the newly-marrieds' first problem was to plug the gap between Citroen's Dyane and GS series with a new five-door hatchback. The uncharitable feared that Peugeot

might cramp Citroen's inimitable style in the attempt . . .

Enter the Visa — and it looks like it's *vive la difference*. This distinctly Citroen supermini looks like no other — inside and out — and that's an achievement in itself. There's a tiny 652cc Citroen engine for the basic Club version, and Peugeot's 1124cc unit from the 104 series for the Super model. We chose to test the Super vis-à-vis its rivals from Ford, Renault and Volkswagen.

How it goes

The Citroen's — sorry, Peugeot's — water-cooled engine is a modern, all-alloy, overhead-camshaft design that follows the Austin-Morris Mini's lead by sharing its

oil between engine and transmission. It breathes through a twin-venturi carburettor to produce a respectable 57bhp from its four cylinders.

Starting was always prompt, whether from cold or hot, and the short warm-up period trouble-free thanks to the nicely progressive manual choke. Once limbered-up, the Super thrives on high revs to deliver through-the-gears acceleration that leaves most of its competitors behind (see table, overpage). There's no tachometer to help, but there are gear change-up points marked on the speedometer, which is just as well as the eager little engine is happy to spin well past its safe 6250rpm limit. This Visa runs out

of steam only in its top-gear acceleration, when we often had to slip down a gear for overtaking.

Though the gear shift has a rubbery action it operates the forward ratios easily, but it's a different story with reverse. Our car's gear engaged with a nasty grating sound, much to the embarrassment of our professional drivers. They had no complaints with the gear ratios, however, which are well-chosen to allow sensible maximum speeds. The clutch has a long, 6in travel and needs a weighty 36lb effort to depress it fully, but it had no trouble in dealing with a re-start on a 1-in-3 hill.

While the Visa's suspension has much in common with the Peugeot 104, it has been tuned by Citroen to produce a blend of ride, handling and steering that sets it above most small cars —



including the 104. Any one of these aspects of the Visa's road manners could be rated as being near or at the top of the small-car class, but to combine all three in one economical package is quite remarkable.

As in most French cars with long-travelling suspension, the Visa develops distinct body-roll while cornering. The clever trick is that its angle of list never develops into anything alarming. The steering is always light and sensitive, giving a good indication of what is happening between the front tyres and the road. Combined with really grippy roadholding, in both wet and dry, the result is a very agile and nimble small car. Our only complaint is of a slight feeling of directional uncertainty at high speed in windy conditions.

The instrument pack and the minor controls are pure Citroen in their sophistication — or eccentricity. At first, the facia looks as disconcerting as that in Batman's Batmobile, but drivers quickly appreciate how thoughtfully planned and laid out it is. The single-spoke steering wheel allows a clear view of everything from the somewhat basic instrument pack to all the minor controls. The well-calibrated but unhelpfully marked speedometer competes for attention with an equally large clock. They are separated by a fuel gauge, and a bank of six pushbuttons underneath operates items such as the heated rear window and rear fog-lamps.

To the left of the steering wheel sprouts what Citroen calls its 'satellite' control. This Sputnik-shaped cylinder houses all the more-frequently used minor switches — two-speed wipers, electric washers, main lamps, indicators and horn — all designed to be reached without the driver having to move his left hand off the steering wheel. After a brief familiarisation period it proved an excellent design, our only criticisms being the windscreen washers' single, puny spray for each press of the uppermost knob, and the non-self-cancelling indicators that also continue to work after the ignition key is removed. The satellite bristles with warning lamps that are angled clearly at the driver, and the pushbuttons are backlit when the lamps are switched on, glowing brighter when in operation.

The wheel and pedals are well-positioned, and the seat offers such a good range of adjustments that only extra-tall drivers who like to stretch out at the wheel might be left wanting more legroom. The seat is soft, in Citroen fashion, its cushion so lacking thigh support that one tester got leg pains on longer jour-



neys. The backrest's all-round support is much better.

How comfortable

Although it's a few inches longer than most of its obvious rivals, the Visa Super's extra inches have been used to good advantage. It has four good passenger doors that open wide and stay that way against strong winds and steep gradients. The less-agile might find the prominent door sills tricky, but otherwise access is good. Passengers' first impression of the cab is of spaciousness: rear seat knee- and legroom is good by small-car standards, and could be even better if the base of the front seats was shaped to allow rear passengers' feet to slide under them. The rear seat's backrest is sensibly shaped and

HOW GOOD

At-a-glance

DRIVE's verdict on the Citroen Visa Super, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●○○○

FUEL ECONOMY

●●●●●●●●○

HANDLING/STEERING

●●●●●●●●○

COMFORT/REFINEMENT

●●●●●●○○○

INTERIOR SPACE

●●●●●●○○○

PASSENGER AIDS

●●●●●●○○○

DRIVER AIDS

●●●●●●○○○

ACCIDENT/INJURY SAFEGUARDS

●●●●●○○○○

RUST RESISTANCE

●●●○○○○○○

COST/EASE OF REPAIR

●○○○○○○○○

holds passengers securely, even when the driver corners enthusiastically, but a little more padding to make it really cosy wouldn't come amiss.

The interior certainly looks cosy. The footwells are fully carpeted, carpet guards against scuff marks on the lower door panels, and the seats are trimmed in Jersey cloth. Twin audio speakers, a roof aerial and full suppression of radio interference comes as standard, but the radio itself is an extra.

Space for storing odds-and-ends is generous. Both front doors have storage bins, there's a deep under-facia tray on both sides of the car and a further storage bin forward of the gear lever — this last one thoughtfully angled towards the nearside to give the driver's idle left foot plenty of parking space.

The tailgate doesn't have to be opened by key every time, and it does give good head clearance while loading, but there is a high sill to hinder the loading of heavy luggage. The load canopy doesn't help, either: it doesn't rise as the tailgate opens, and has to be flipped back or removed completely to improve access. Once these irritations are overcome, the boot is a practical size and the rear seat's folding arrangement is simple. Unfortunately, the result is a stepped, uncarpeted floor on which cargo tends to slide around.

We were impressed by the Visa's lack of rattles and creaks. Other noise levels are generally well suppressed, too, the gear whines at lower speeds intruding less than those in the Renault 14 and Peugeot 104 — both of which use this Visa's engine and transmission. Outside, the idling engine sounds like a shaking tin of nails, but occupants are well-insulated from its noise.

Around town, the Visa's light steering and its good lock makes parking easy, though short drivers have to stretch upright to see the tip of the bonnet. For others, all-round vision is good except in the rain, when the single front-screen wiper leaves some nasty blind spots for taller drivers to contend with. And why can't the rear screen's wiper be left working continuously? It's certainly needed for safe motorway driving in heavy rain.

We were impressed by the Super's ability to cruise quietly at speeds up to the motorway's limit. What impresses most, however, is the comfortable way it moves. For sheer all-round levelness and pliancy we rate the Visa's suspension as the best in its class — better even than the excellent Renault 5 — and its composure through bumpy bends is very reassuring. True, there is

CITROEN VISA SUPER

Parts/repairs (inc VAT)

clutch £50.95 (fitting 5.9hr)
exhaust £59.67 (1.6hr)
headlamp unit £29.31 (0.6hr)
front bumper £48.68 (1.1hr)
laminated windscreen £80.37 (1.5hr)

oil filter and points £7.80 (1.6hr)
major service 10,000 miles (4.7hr)

Insurance group 3

Warranty 12 months/unlimited mileage

Standing costs per year/12,000 miles

Loss of value N/A
Capital interest N/A
New-cost inflation N/A
Total standing costs=N/A

Running costs

Petrol (£1.38gal) £419
Insurance (av) £137
Road tax, AA sub £60+£26
Servicing/replacements £208
Total running costs=£850 (7.08p pm)
Total cost of ownership N/A

HOW IT COMPARES

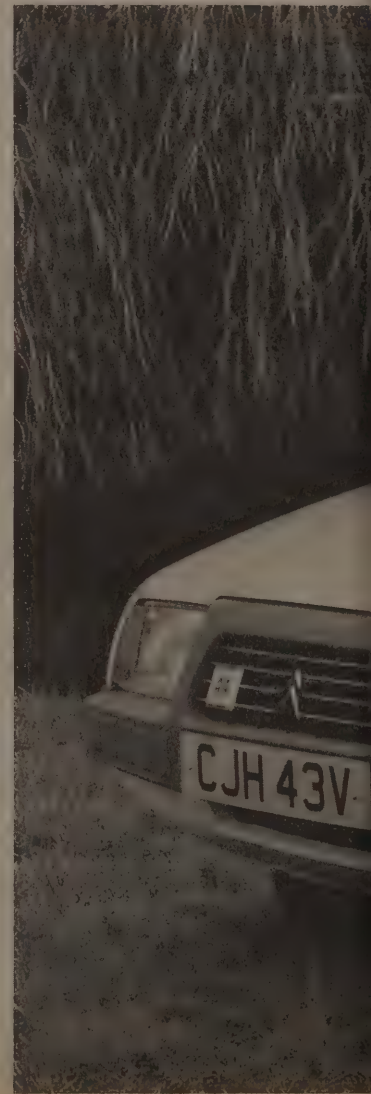
Citroen Visa Super

Datsun Cherry 4dr saloon

Ford Fiesta 1100 Ghia

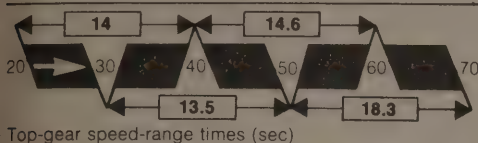
Peugeot 104SR

VW Polo GLS



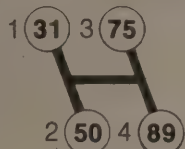
ACCELERATION times in sec

MPH	THROUGH GEARS	IN TOP GEAR
0-30	4.4	
30-40	2.6	6.8
30-50	5.6	13.5
30-60	10.4	21.4
30-70	16.4	31.8

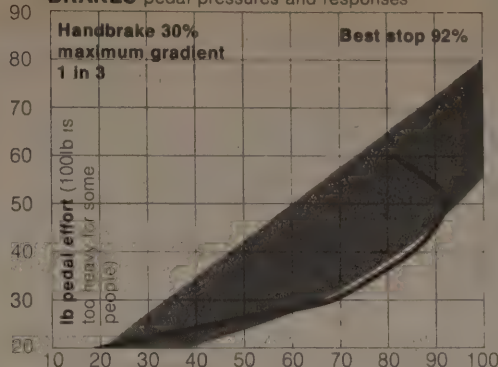


TOP SPEEDS

max engine speed used 6250rpm;
max in top 5250rpm;
standing ¼ mile
19.9sec



BRAKES pedal pressures and responses



%efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop
(ideal car would show no variation)

34lb at start: 40lb in constant use; 80lb in severe use
Watersplash 85lb at first, 5 stops to recover

FUEL 2-star/91 octane min

Consumption — normal range

short journey in the suburbs	33½mpg
hard driving, heavy traffic	34mpg
motorway — 70mph cruising	36½mpg
brisk driving — 50mph cruising	42mpg
gentle driving — rural roads	46mpg

Typical mpg overall **39½mpg**
Realistic tank range 350 miles/7½gal

Consumption at steady speeds

30mph	65mpg
50mph	43mpg
70mph	36½mpg
max mph	25½mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	head restraints: front?	No
good road 'feel'?	Yes	rear?	No
brakes: powerful?	Yes	interior: well padded?	No
sensibly servoed?	No	windscreen: laminated?	No
fade resistant?	No	doors: childproof?	Yes
belts: effective?	Yes	latches	No
convenient?	Yes	crashproof?	No
fitted in rear?	No	petrol: shielded filler?	No
		protected tank?	No

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (% G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
3709	1124	39½	89	16.4	31.8	92/50	12' 2¼"	39¼	36½	3¼/31½
3251	998	38½	79	27.0	48.6	88/95	12' 9¼"	39¾	35	3¼/33¼
4192	1118	38	85	18.2	29.1	97/50	11' 10¼"	39½	38¼	3½/31½
3915	1219	38	89	17.6	29.4	95/70	11' 10½"	39	33¾	3¼/31½
3931	1093	38	87	17.5	26.4	96/70	11' 6"	40½	37	3¾/30½



some bump-thump from the tyres when the road gets rough, but this is heard more often than it's felt.

Heating and ventilation arrangements are comprehensive and versatile. Without too much fiddling of the sliding controls by the driver's right hand it's possible to achieve a comfortable warm-feet, cool-face atmosphere. It's even possible to direct warm or cool air towards rear passengers, though little of this circulates round the footwells, and powerful front-screen demisters are complemented by side-window demisters.

How strong

Citroens seem to suffer more than some marques from early rusting. Not structural corrosion, we hasten to add, but 'cosmetic' corrosion as it's known in the trade — rust 'bleeding' from door seams and poorly finished edges. A close inspection of our test car revealed that Citroen has yet to catch the early tin worm. The paintwork also had too many skimmed edges, and looked as if it wouldn't be long before someone has to apply some touch-up paint.

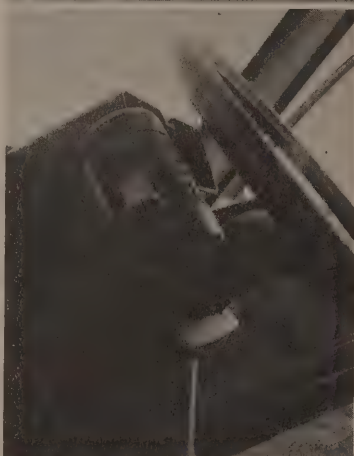
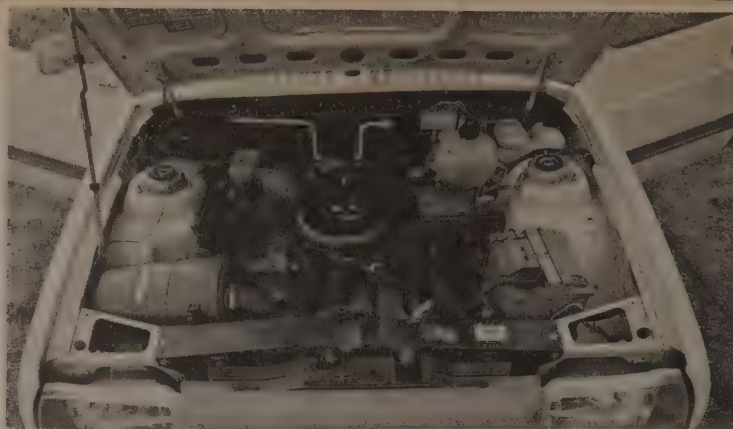
Underneath, our test Visa's credentials looked better. A thick, black wax had been scrupulously applied overall, and was well-injected into box sections and door interiors. So, despite protective plastic bumpers and side rubbing strips that should make the Visa immune from careless parkers, it seems this is one of those cars that will look frayed around the edges long before any structural weakening occurs.

Deeply curved sill panels make mudflaps advisable but, thanks to the Visa's lack of brightwork, bodywork cleaning is not difficult. Inside, the cloth upholstery attracts hair and fibres readily, and it's difficult to remove them even with a powerful vacuum cleaner. The curious cloth-covered fascia panel is just as tricky, and already looked tatty on our car.

Mechanical reliability is usually difficult to predict for a new car, but the Visa's running gear has been tried and tested in the Peugeot 104, so Visa holders should have trouble-free transport.

How safe

Our test car's brakes suffered from an annoying, intermittent squeal — a problem that afflicts many French braking systems. They performed well in ordinary use, but its pedal pressure is a shade too light for ideal use in an emergency. We can imagine many drivers stamping on the pedal in a panic and getting not an efficient emergency stop, but useless front-wheel lock-up. Brake



fade is a problem in severe use, and it takes five heavy applications of the pedal to restore normal stopping power after wading a river.

Visa travelling is always safe and predictable. The car runs progressively wide of its chosen path as the pace quickens through bends, and tamely returns on course when the accelerator is released in mid-corner.

Passive safety features include a well-padded interior, but it failed to get a 'Yes' in our Safety Checks because of the front passengers' lack of protection from rear passengers' knees. More surprisingly, the exterior door handles are the frowned-on push-button type that can allow doors to fly open when side-swiped.

How much

Super owners will relish outper-

forming their rivals while also bettering their fuel consumption. The new Renault 5TL with its 1100cc engine may be more economical, but it's nowhere near as nimble when accelerating through the gears. The Super's worst use of petrol is on short trips around town, but even here its 33½mpg is still respectable. Take it gently on the byeways and you can expect consumption to improve to just short of the magic 50mpg, or whip along the motorway at 70mph and enjoy a useful 36½mpg. The tank is reasonably quick to brim, and most owners can expect a realistic tank range of around 350 miles.

Of course, fuel consumption is only one part of economical motoring. Past Citroens have suffered high depreciation because of their complex innards and expensive parts. The Visa Super is certainly easier to work on than many Citroens, though it's still not a passport to the DIY promised land, and parts prices have recently been reduced by 17%. They are no longer exorbitant, just expensive. How this affects depreciation we will just have to wait and see, but insurance companies are regarding the Super as a Group 3 risk — about average for a small import.

Not surprisingly, the Visa Super is similarly priced to the Peugeot 104, is a lot cheaper than the 5-door Renault 5, but less of a bargain than the Toyota Starlet.

Citroen's dealer network has recently increased to a respect-

able 270 centres, and major Visa servicing comes round only every 10,000 miles (minor servicing every 5000 miles), so owners should experience no trouble getting their Visa service book rubber stamped.

Verdict

It's rare for a new car to set a new standard for its class, but the Visa Super is just such a car. That it was achieved by marrying mature Peugeot parts to a fresh Citroen body is even more remarkable.

A marriage of convenience it may have been, but the result is a gifted baby, for the Super's blend of ride, handling and steering shames many a big saloon's — let alone its rivals'. Better still, this Visa permits fuel misers to roam farther and faster than many another marque.

And, when Citroen decides to improve the Super's cargo area and paintwork, this Visa should prove a passport to the happiness of owners and makers alike.

ENGINE

Type and size front-mounted, transverse 4-in-line, water-cooled; 72mm bore x 69mm stroke = 1124cc; 5 main bearings; alloy block/head

Compression ratio 9.2:1

Valve gear overhead camshaft (chain driven)

Fuel system one Solex 32 PBS1A7 twin-venturi carburettor fed by mechanical pump from 8.8gal tank — no reserve

Max power (DIN-net) 57bhp at 6250rpm

Max torque (DIN-net) 59lb ft at 3000rpm

TRANSMISSION

Clutch 7¼in diaphragm spring, single dry plate, hydraulically operated; pedal load/travel: 36lb/6in

Gearbox 4-speed (all synchromesh) and reverse. Ratios: first 3.88:1, second 2.29:1, third 1.50:1, top 1.04:1, reverse 3.56:1

Final drive 3.56:1 to front wheels

Mph per 1000rpm 17.28 in top gear

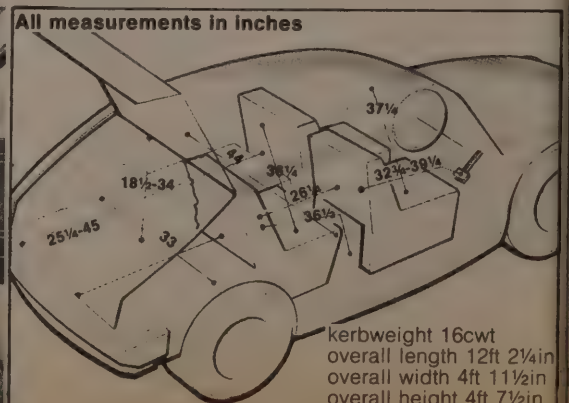
CHASSIS

Suspension — Front: independent MacPherson damper/struts, integral coil springs and anti-roll bar. Rear: independent with trailing arms and coil springs and anti-roll bar. Dampers: telescopic all round

Steering rack and pinion, 3¼ turns between full locks; turning circles average 31½ft between kerbs, with 51½ft in response to one turn of the wheel

Wheels 4½B (steel) with Michelin XZX 145SR13 steel-braced radial-ply tyres

Brakes dual-circuit hydraulics; discs front, drums rear, and rear brake pressure regulator



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Ascona prices from £4,071. Ascona Berlina illustrated £5,285. Prices correct at time of going to press, include seat belts, car taxes and VAT. Metallic paint, light metal wheels, delivery and number plates extra.

*Opel Technical Specifications. †Not applicable in N. Ireland.

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Name

Address

If aged under 17 please tick box ☐

Dr12

A

OPEL

Reliability comes as standard.

UK Government Fuel Consumption Tests: Saloon GL/Berlina/SR 2.0S manual, Urban 23.7 mpg (11.9L/100 km), 56 mph (90k/h), 39.8 mpg (7.1L/100 km), 75 mph (120k/h), 29.7 mpg (9.5L/100 km).

Double helpings, this time: having missed out on the Long-Term-Test Club in the last issue (it was DRIVE's special for the AA 75th anniversary), we make up for it now, with first reports on a managing director's Jag and a record promoter's Volvo, plus final reports on the doctor's diesel Golf and the book buyer's Spitfire

JAGUAR XJ6 4.2 AUTOMATIC First Report

David's automatic choice

DAVID MILLS is, at the age of 36, the managing director of a firm of Birmingham printing specialists, and in his busy life he drives more miles a year than most of us — in undeniable luxury.

We became interested in David when we learned that he was trading in his 18-month-old Ford Granada, with 73,000 miles behind it, and looking for a Jaguar. Just the thing to give our club a touch of class.

Why a Jaguar? 'It's the best car that we produce in this country — for style, speed and reliability, it is unbeatable. I looked at the German opposition, but BMWs do nothing for me, and there's a waiting list for every Mercedes. Anyway, a lot of people feel the way I do about Jaguars ...

'I wanted an automatic with leather upholstery, but I didn't mind about colour or whether it had a 3.4 or 4.2litre engine; I knew that if I started telling any Jag dealer all my likes and dislikes, he would tell me which year I could expect delivery. I didn't want to wait that long, so I rang round all the local dealers and found a white XJ4.2 automatic — with leather upholstery — at PJ Evans of Dudley. I paid £14,948.54, including a Cadulac

rustproofing treatment for £55, and took delivery on 2 January.'

It took DRIVE three weeks to catch up with the busy David Mills again, by which time he had clocked up 3300 miles. Faults he'd noticed included a 'sloppy' handbrake, a nearside rear door that wouldn't close properly, an electric aerial that wouldn't go down, windscreen washer jets that needed adjustment, and two bulb failures — driver's courtesy light and boot light. All were put right at the first service, and the smart, nearly-new Jaguar was wheeled into the AA's W Bromwich test centre for our first check on 28 January, now with 4362 miles showing.

Check 1

AA engineer Alan Haynes admits to a fondness for Jaguars — provided that their owners have

enough money to look after them properly. 'So often, when a Jaguar is resold it is to someone who can't afford it, and he'll bleat about the bills. These people are responsible for giving Jaguar anything but the good name it deserves. The car is good value for money, and should give many comfortable miles of service.'

Right or wrong car, some testing excitement took place at high speed, when the throttle stuck not once but several times. Luckily the car was on a rolling road at the time, but David was clearly shaken. 'I'd never have the presence of mind to turn off the engine,' he admitted.

'Even if you did,' warned Haynes, 'there is no guarantee that the engine would stop — particularly if the car was running a bit rich.'

Haynes discovered that the cause was nothing more exotic than the throttle catching on the carpet, and he suggested that David should return the car to the Jaguar dealer as a matter of

urgency. 'Can't the carpet be cut?' asked David.

Haynes' expression revealed that even to think of such a solution amounted to vandalism. 'But that will spoil your carpet,' he protested.

'It's my life or my carpet,' said David, firmly, and Haynes was persuaded reluctantly to snip away the problem.

Sadly, however, he found plenty to write about in the rest of his report:

brake fluid had dripped on to the right fitch panel — probably a result of overfilling the cylinder reservoir

there was a severe oil leak from the power-steering rack, and Haynes pointed out that a leaking pipe union or faulty rack seal wouldn't wait for attention the base of the torque converter housing was oil fouled the handbrake-cable adjustment locknut was found to be insecure an exhaust U-clamp was missing from the front joint adjacent to the gearbox, causing rattle and exhaust leak

the speedometer drive-box was insecure, though not leaking a cardboard shield to the left of the offside rear silencer was ripped and needed replacing oil loss noted from axle unit needed monitoring

play in both front hubs — 'acceptable for the present' the rear offside drain channel was damaged below the boot, probably by an impact; this would lead to water in the boot if left the front offside towing eye was bent, again by impact side-to-side variation in castor



angles was excessive, and the angles were below the specification figure; this could affect handling and tyre wear
the engine idle speed was too slow, probably causing rich CO and hydrocarbon emission at idle, and the ignition timing was over-advanced

the nearside wiper-spindle trim-cap was missing
a deep scratch on the front offside wing had also damaged the coach-line: the complete wing needed refinishing

underbody protection was chipped off both sides, possibly by stone bombardment

paint overspray was noted on both rear door-handle trims (black plastic), but there were no obvious signs of panel repairs
black paint was peeling off all wheel trims, and chrome wheel-nuts were already rusting
poor-quality paint at the corners of boot aperture, adjacent to the bumper, had cracked, probably caused by an impact

all self-adhesive coachlines were coming adrift

both wiper arms were starting to rust, and various other rust spots were noted around boot-interior seams

fibre-optic viewing equipment showed that there was a general lack of rust protection on the interior of all panels inspected
there was condensation in both front indicator lamps and the left foglamp, and both headlamp beams were too far to the right.

The list looked formidable, but Haynes consoled our man: 'All the faults that I have found should be cleared up easily by your dealer.' David Mills shrugged off the lot as 'nothing out of the ordinary in this day and age', and said he would have them ironed out at the next service. The Jaguar, he said, had proved to be everything he'd anticipated, and it was still a super car.



VOLVO 345DL First Report

Music and movement



HOWARD CAMPBELL has the glamorous job of record promoter in London, but Tin Pan Alley lost some of its expense-account shine when he left the giant EMI in March to go freelance... and had to surrender his company Ford Cortina.

Howard's choice of replacement wheels intrigued us so much that we signed him on for a year with the Long-Term-Test Club. After all, how many 22-year-old bachelors can you think of who would buy a very-conservative Volvo 345DL? His only apparent concession to image was to order a front spoiler — but that, he said, was on the grounds that it would improve mpg and stability.

Said Howard: 'I'll be doing 15-20,000 miles this year, and, if the business takes off, I'll have to buy a bigger car to get rid of some money! Why the Volvo? Well, I liked the idea of an economy car, and I needed one that could carry my drum kit' — he plays

in a 'soul' band called Flight. 'I take passengers into consideration, too, and that's why I wanted five doors. This car is stylish enough to give me prestige, and it has the Volvo name for reliability and quality.'

'I left EMI and collected my new car on the same day — I can't be without wheels: they are the only tool of my trade. I hope it impresses Radio 1 producers...'

With that kind of time schedule, Howard's choice boiled down in the end to one

between the 345DL and a Ford Fiesta Ghia; with the discount offered by Shaw and Kilburn, of Watford, the Volvo came out ahead. He was surprised to find that it was powered by a Renault engine, but seemed convinced that he had bought a safer-than-average car.

Check 1

With only 172 miles clocked up, the gleaming Volvo was delivered into the tender hands of AA engineer Lawrie Pirie. The following items needed attention: the driver's seatbelt webbing was very dirty and difficult to unreel smoothly without the inertia mechanism locking up
both front doors were stiff, caused by lack of lubrication
the chrome window surround on the offside rear door was dented
there were oil stains around the back of the rocker cover and the front of the sump area; Pirie made a note to check these next time
the headlamps were set too high and wires hanging under both

front seats could have caught rear passengers' feet

underbody rust protection was impressive, apart from two niggles: the bitumastic coating was tending to lift on a couple of points on the front bulkhead, and some had been sprayed over the silencer; Howard saw nothing wrong with that, but then he hadn't taken a long drive — burning sealant smells dreadful
rear tyres were underinflated, a front one was down, too, and the spare was 6psi overinflated
screenwash jets made a good job of washing following traffic...
on the road test, the engine idling speed was too fast at 850rpm

Overall, however, Pirie was impressed by the high standard of finish and build quality. Criticism of tyre pressures, washer jets and idling speed must be levelled at the dealer — not the manufacturer: that's why you have a pre-delivery inspection, and why the dealer gets his profit.

Howard, too, was happy: 'I feel I have got value for money.'

VOLKSWAGEN GOLF LD Final report

What's up, Doc?

COME ALONG, THEN: how many of you chuckled a year ago when Dr Peter Burstyn, 37, predicted 'Even at £1.30 a gallon, diesel makes sense even for the low-mileage driver.' In those days, we were paying 75p for petrol and 80p for diesel...

With hindsight, Dr Burstyn's decision to spend £3915 on a Volkswagen Golf LD looks like a smart one, even if he does have to

try fairly hard to achieve the magic 50mpg. While diesel has gone up to £1.40, petrol has climbed likewise, so every extra mpg counts.

A physiology lecturer at Southampton University, Dr Burstyn is also very knowledgeable about engines, and he admits to being a diesel fanatic; he had to be to run his previous vehicle — a diesel Land-Rover. 'It was a pain

LONG-TERM-TEST CLUB

to drive long distances,' he admitted, '— noisy and slow. You can't say that about the Golf.'

He went on to point out that he never drives to work: 'I cycle, so most of my driving is medium-to-long distance. Unless it is bucketing with rain, I won't drive less than three miles. I like the no-maintenance bit, too. The Golf will get its routine trips to the dealer for the first year, to comply with the warranty, and, after that, all it will need are oil changes.'

Check 1, at 400 miles

Dr Burstyn's Golf arrived at DRIVE on 18 June 1979; already, a brim-to-brim check had led him to believe that his average fuel consumption was 58½mpg — all the more remarkable when our engineer, Charles Stubbs, admitted that the one serious fault he could find was leaking fuel from a porous flexible pipe. The tank would need draining.

Tyre pressures were set far too high — 30psi all round instead of 24psi — and their correction made a noticeable improvement to the car's ride. There was also a black mark for the factory — underbody protection had been

sprayed on to the exhaust pipe, producing a very nasty smell.

Check 2, at 4968 miles

Peter's first major run had been a touring holiday in the South of France, where diesel is much cheaper than petrol — under £1 a gallon at the time — and that was good news. But, back at the AA's laboratories, on 4 September, he had one major grouse: the expensive injection pump, built by CAV in the UK, was acting up. 'The acceleration is flat at the top end of the rev range,' said Peter, 'and I think my economy is now poor, at 49mpg. My garage sent the car to a diesel specialist in Southampton who was going to strip the pump and rebuild it, but CAV stepped in. Its man said that, if the pump was faulty, he wanted to know why. So I have ordered a new pump from VW in Germany and another from CAV. I have been waiting a month.'

DRIVE's experts raised their eyebrows when Peter told how he had fitted bigger tyres to correct the speedometer, but, on the rolling road, he proved his point: the speedo was now spot-on accurate.

AA engineer Charles Stubbs noted that the leaking fuel pipe had been secured, but the fuel line had been distorted in the process. 'It could cause a fuel restriction, and should receive workshop attention.'

He also noticed two small areas of rust bleeding in the well of the sunshine roof, although, at this stage, they were easily wiped off. Stubbs added: 'Torn trim in the rear of the car must be considered as a sacrifice to saving the environment — an old-fashioned bicycle must be a tight fit in the back of a Golf! And varnish on the tailgate indicates that a chest of drawers is also a squeeze ...'

'However, Volkswagen's fittings are all secure and functioning correctly. Peter, himself, has fitted a coolant temperature gauge, an ammeter and an oil-pressure gauge — a neat job, well done. But it is unnerving to see the temperature go up to 105° before the fan cuts in, and the oil pressure reading 100psi when the engine is revved. Perhaps warning lights are more relaxing ...'

Check 4, at 8118 miles

... and already the doctor's


enthusiasm for his new car was wearing thin: he had cancelled his Check 3 with the feeble-sounding excuse that he wanted to go off and marry French-Canadian Dr Elaine Parthenais, the girl he'd first met on a ski-ing holiday in Finland, 16 years ago.

On 11 January, AA engineer Bernard Tasker made a show of offering his congratulations, but we could see he was upset by such infidelity. He rapidly got down to the Golf inspection.

Tasker had heard all about Peter's extra-large tyres, and was struck by a sudden thought: what about the spare wheel? Talk about a tight fit! Tasker ended up standing in the luggage compartment and heaving with all his strength. In the end, the only way in which the wheel could be removed was by deflating the tyre ... which would rather defeat the purpose of carrying it.

Peter was determined to come up with an answer, but only got as far as suggesting a cause: perhaps

USED-CAR PRICE GUIDE 100 of today's most-popul

	MAKE AND MODEL	Road test report No	date	DATA AT TEST DATE					insurance group	MODEL YEAR							
				engine cc	mean top mph	acceleration 0-60 in sec	overall mpg	Average secondhand price guide									
								1980		1979	1978	1977	1976	1975	1974	1973	
	Alfa Romeo Alfased SE/1.3 Super 4-dr	354	1974	1186	92	16.1	32.5	5	—	2875*	2230	1835	1485	1215	970	—	
	Giulietta 1.6	D25	1979	1570	104	12.2	29.75	6	—	3815	—	—	—	—	—	—	
	Audi 80GLS	D18	1979	1588	103	11.9	34.75	6	4955	4360*	3540	2850*	2280	1810	1390	1040	
	100LS/LS	A18	1977	1984	108	11.9	29.0	7	—	—	3470	2900*	2080	1735	1440	1165	
	Austin-Morris Mini 850	R 8013	1980	848	73	23.6	42.5	1	—	2035	1745	1500	1285	1090	925	785	
	Mini Clubman	A10	1977	1098	82	18.2	40.5	1/2	—	2485	2130	1835	1570	1340	1135	960	
	Allegro 1300 (1.3) 4-door	377	1976	1275	85	19.0	37.0	2	3170*	2795	2330	1985	1675*	1410	1170	965	
	Allegro 1500L estate	D9	1979	1485	90	16.6	34.25	3	—	3150	2625	2235	1875*	1565	—	—	
	Maxi 1750 HL (HLS)	R 805	1980	1748	94	13.1	30.5	4	—	3130*	2655	2255	1905	1585	1320	1080	
	Princess 1700HL (1800 HLS)	397	1976	1798	96	14.2	29.75	3	4310	3445	3145*	2330	1860	1490	—	—	
	Princess 2 2200HL (HLS)	D11	1978	2227	103	13.8	27.25	6	—	3565	3220*	2305	1835	1440	—	—	
	Marina 1300 (1.3) 4-door	392	1976	1275	85	18.2	33.0	2	3140	2805*	2380	2030	1725*	1460	1220	1005	
	Marina 1700 (1.8) estate	A31	1977	1798	93	14.8	30.0	3	—	3280*	2765	2360	1985*	1665	1380	1125	
	BMW 316	RI 149	1977	1573	101	12.9	27.5	6	—	4830	4035	3345	2775	—	—	—	
	520	D11	1978	1990	109	13.7	27.25	7	—	6485	5350*	4360	3565	2900	2330	1835	
	Citroen 2CV6	RI 118	1975	602	66	37.2	44.0	1	—	1785	1465	1230	1035	880	—	—	
	Dyane 6	D1	1979	602	68	26.9	47.0	1	2270	1915	1555	1300	1085	910	760	630	
	GS 1220 Club estate	D8	1979	1222	90	17.0	31.75	3/4	—	3070	2575	2130	1760	1465	1190	945	
	CX Reflex/2000	A16	1977	1985	107	12.7	29.25	6/7	—	3665	3020	2480	2055	1685	—	—	
	CX2400 Super estate	A16	1977	2347	102	12.7	25.25	6/7	—	5000	4060	3270	—	—	—	—	
	Colt Lancer 1400GL(X) 4-door	371	1975	1439	94	12.9	34.0	5	—	3040	2525	2110	1735	1410	—	—	
	Sigma 2000GLX	A32	1977	1995	95	14.1	27.25	6	—	4120	3460	2905	—	—	—	—	
	Datsun Cherry 4-door	D3	1978	988	83	20.4	38.5	3	—	2585*	2030	1725	1585*	1290	1080	895	
	Sunny 1200GLS 4-door	D20	1979	1171	86	18.8	37.0	3/4	—	2710*	2240	1910	1605	1350	1120	—	
	Violet 140J	RI 132M	1975	1428	94	15.5	32.0	4	—	2940	2485	1990	1685	1410	1170	—	
	Laurel Six	D11	1978	1998	96	13.7	25.0	6	—	4260	3540*	2330	1945	1605	—	—	
	Fiat 126	D1	1979	652	68	37.2	47.0	1	—	1845	1580*	1355*	1030	875	740	615	
	127 1050CL (3-door Special)	A29	1977	1049	84	16.4	39.75	3	—	2420	1965*	1670*	1415	1190	990	825	
	128 1100 4-door	A02	1976	1116	83	17.4	38.0	3	—	—	1920	1635*	1385	1160	970	805	
	131 1600 estate	A12	1977	1585	96	14.2	32.75	5	—	3150	2905*	2440	2240*	1705	—	—	
	132 2000 (1800)	D12	1978	1995	103	10.7	29.25	6	—	4010	3410*	2170*	1805	1480	1330*	945	
	Ford Fiesta 1000L	A17	1978	957	83	18.4	41.0	1	2980	2755	2375	2125	—	—	—	—	
	Fiesta 1300S	RI 181	1979	1298	93	13.1	38.0	3	—	3245	2800	—	—	—	—	—	
	Escort 1300 Mk1/2	D4	1978	1297	85	17.1	33.0	2	2895	2635	2240	1920	1635	1375*	1170	990	
	Escort 1600 Ghia	D4	1979	1598	96	12.7	33.75	5	—	3350	2845	2435	2060	1735	—	—	
	Cortina 1600L	A04	1976	1593	89	15.3	27.0	3	3700*	3380	2870	2450*	1745	1490	1260	1060	
	Cortina 2000 estate	A13	1977	1993	96	12.7	27.25	5	—	4330	3680	3140*	2170	1855	1565	1320	
	Capri 2000S (GT)	RI 166M	1978	1993	109	10.9	30.25	4/5	—	3940	3330*	2835	2380*	2000	1655*	1350	
	Granada 2.8 estate auto	D8	1978	2792	103	11.4	21.0	6	—	5770	4680*	3420	3095	2180	1660	1190	
	Honda Civic	RI 155	1978	1238	83	15.5	36.5	4	—	2670	2280	2030*	1655	1400	1170	—	
	Accord 3-door auto	A20	1977	1600	89	14.7	32.0	5/6	—	4010	3420	2895	—	—	—	—	
	Jaguar-Daimler XJ6/4.2 auto	R 8024	1980	4235	125†	10.3	19.0	7/8	—	12130*	8615	6040	4805	3765	2875*	2230	
	XJS auto	394	1976	5343	150	7.7	15.25	7	—	13370	10895	8765	7030	—	—	—	
	Lada 1200	RI 175	1979	1198	84	17.4	28.5	3	—	1885	1585	1340	1120	925	755	—	
	1500/1600	RI 173	1979	1570	92	14.8	29.25	4	—	2770*	1985	1675	1400	—	—	—	
	Lancia Beta 2000 (1800)	RI 171M	1978	1995	107	11.2	26.5	6/7	—	3490	2825	2230	1585*	1265	995	—	
	MGB GT	D13	1979	1798	101	12.4	27.0	6	—	4360	3815	3320	2775*	2330	1935	1610	
	Mazda 323 3-door (New 1300)	D4	1978	1272	89	15.9	36.5	4	—	2650	2255	1925*	1355	1135	950	—	
	Mercedes-Benz 280E auto	D11	1979	2746	120	9.4	21.0	7/SR	—	11290	9410	7775*	4855	4010	3370	2775	
	Opel Kadett L estate	338	1974	1196	84	16.7	32.0	3	—	2970	2515	2320	1800	1500	1250	1010	

S/R=special rates * = revised specification or designation



Stuart McPherson

the cold weather had resulted in the wheel well contracting round the tyre. But wouldn't that also condense the air in the tyre? We changed the subject.

Since his last inspection, he had had the new injection pump fitted and a new steering lock, both under warranty. Injectors and timing had been checked and pronounced OK by the garage at 4620 miles, but Peter wasn't happy: 'I have driven 2227 miles with the new pump, and it seems to have made my economy worse: down from 48.6 to 45.2mpg. I have written to the dealer for a comment, but he has not replied . . .

'Meanwhile, I have nothing really to complain about. The car is peppy, easy to drive and quiet. Oh yes, there is nowhere for the diesel fuel to go when it splutters up the filler pipe, except down the paintwork.'

Tasker was busy noting that a chunk of front spoiler was missing, and, potentially more serious, oil was leaking from the

engine. 'The precise source of this leak is masked by the timing-belt cover,' he said, 'but I suspect that the cylinder-head gasket is the culprit.'

Spotting that the brake-fluid level was down, Tasker suspected pad wear. Sure enough, they would need replacing.

On the road, he was impressed: 'One of the few cars I have driven that maintains an absolutely straight line when driven "hands off"'. It is an excellent example, which will doubtless continue to give many thousands of miles of good service.'

Check 5, at 11,600 miles

Peter's Golf had given another 3000 miles' good service — some of them on another French holiday — when Charles Stubbs returned to conclude: 'The only comment of any significance that I can make is of the cleanliness of the engine and lack of oil leaks.'

'The bodywork has stood up to stone chips remarkably well. The front brake pads should be renewed in the near future, but performance and handling give no cause for adverse comment.'

Peter's overall consumption

secondhand-car buys. Specifications compiled from our tests, the reference numbers of which are given.

MAKE AND MODEL	Road test report No	date	DATA AT TEST DATE					insurance group	MODEL YEAR							
			engine cc	mean top mph	accelera- tion 0-60 in sec	overall mpg	Average secondhand price guide									
							1980		1979	1978	1977	1976	1975	1974	1973	
Manta	407	1977	1897	103	11.0	26.5	4	—	—	4335	3985*	3070	2550*	2105	1710	1365
Rekord	D12	1978	1979	104	12.2	28.0	6	—	—	4605	3715*	2230	1885	1560	1290	1040
Peugeot 104GL	406	1977	954	83	19.9	36.0	3	2875	2545	2135	1785*	1500	1260	1060	885	—
305 (304)	D9	1978	1290	88	15.8	33.75	4	—	—	3345	2850*	2030*	1710	1440	1190	970
504 (1800L)	RI 174M	1979	1796	94	14.6	28.0	5	—	—	3640*	2975	2480	2030	—	—	—
504Ti	358	1974	1971	104	11.1	26.25	6	—	—	4385	3615	2975	2480	2030	1660	—
504 Family estate	RI 159	1978	1971	98	13.3	26.5	4	—	—	5150	4335	3590	2995	2500	2055	1710
604SL	391	1976	2664	112	11.6	23.25	7	—	—	5495	4385	3420	2675	—	—	—
Reliant Scimitar GTE	303	1973	2994	118	9.1	21.25	7	—	—	6440*	5325	4410	3640	2975	2455	*985
Renault 4TL/GTL	R 8017	1980	1108	70	27.1	41.5	S/R	2650	2355	1985	1665	1400	1175	990	925	—
5TL	D3	1978	956	81	19.3	39.5	3	—	—	2675	2305	1935	1610	1365	1140	945
5TS	370	1975	1289	93	13.3	36.25	4	—	—	3070	2625	2205	1885	1585	—	—
12TL estate	374	1976	1289	87	16.6	31.5	3	—	—	3320	2800	2330	1960*	1635	1340	1115
14TL	414/RI 189	1977	1218	89	14.8	36.5	4	—	—	2955	2480	2095	—	—	—	—
16TL	291	1972	1565	93	15.1	29.5	4	—	—	3070	2600	2155	1810	1490	1240	1015
30TS	RI 134M	1976	2664	113	10.3	23.75	3/4	—	—	4930	4060	3320	2725	—	—	—
Rover-Triumph Rover 3500	428	1977	3528	119	10.4	24.5	6	—	—	6190	5100	4185	3445*	2205	1810	1440
Range Rover	D2	1979	3528	94	15.7	16.25	5	—	—	9505	8295	7280	6440	5745	4905	4110
Triumph Dolomite 1300/Toledo	345/RI 150	1977	1296	83	19.8	33.0	2/3	—	—	3020	2540	2140	1785*	1400	1165	955
Dolomite Sprint	332	1974	1998	113	9.3	30.0	6	—	—	4110	3445	2875	2355	1935*	1535	1190
Triumph 2000 Mk2	219	1970	1998	95	15.0	26.0	4	—	—	—	—	2575	2130	1835*	1465	1215
Triumph Spitfire 1500 (1300)	376	1976	1493	97	12.5	35.25	5	—	—	3220	2700	2280	1925	1610*	1365	1140
Triumph TR7	401	1976	1998	108	10.2	28.75	6	—	—	4060	3320	2600	2155	—	—	—
Triumph Stag	273	1972	2997	118	10.2	22.5	S/R	—	—	—	—	4930	4060	3320	2725	2180
Saab 99GL	419	1977	1985	101	12.7	30.0	6	—	—	4360	3640	2975	2480	2030	1660	1340
Skoda S110/Estelle 120L	D1/RI 169	1979	1174	86	17.9	33.0	3	—	—	1990	1685	1440*	850	725	615	520
Talbot (Chrysler) Simca 1100GLS	298	1973	1118	85	16.5	33.25	3	—	—	2275	1940	1650	1400	1175	985	815
Avenger 1.3 (1250)	D9	1978	1295	87	16.6	33.5	2	—	—	2565	2170*	1845	1490	1245	1025*	835
Sunbeam 1.6S	D6	1978	1600	95	13.9	33.5	3	—	—	3405	2905	—	—	—	—	—
Alpine GLS	381	1976	1442	97	14.3	32.0	5	—	—	3630	3070	2610	2200	—	—	—
Toyota Starlet (1000)	D3	1979	993	85	18.7	38.5	3	—	—	2755	2440*	1615	1370	1145	—	—
Corolla 30	399	1976	1166	87	15.9	33.5	4	—	—	2715	2300	2120	1645	1370	—	—
Carina 1600 auto	D10	1978	1588	92	15.1	27.5	5	—	—	3360	2805	2340	2090	1545	1260	1010
Corona GL	RI 185	1979	1770	98	14.2	31.75	6	—	—	4060*	—	2000	1675	1380	1120	895
Vauxhall Chevette GL(L) 3-door	D3	1979	1256	89	16.2	37.0	2	3325	2970	2535	2180	1925*	1580	—	—	—
Viva 2-door	378	1976	1256	87	17.0	34.5	2	—	—	2360	1995	1685	1420*	1180	975	795
Cavalier 1600L 4-door	382	1976	1584	96	12.6	29.5	4	3705	3410	2895	2460	2080	—	—	—	—
Cavalier (2000) 1.9GL auto	RI 152	1977	1897	97	12.2	27.0	4	—	—	4200	3535	2980	2485	—	—	—
Cavalier 2000GLS Sports hatch	RI 184	1979	1979	109	11.2	29.5	4	—	—	4565*	3785*	3240	2755	—	—	—
Victor VX1800	390	1976	1759	98	14.4	28.0	3	—	—	—	2525	2130	1860*	1465	1165	920
VX2300 estate	RI 147	1976	2279	101	12.2	26.5	4/5	—	—	—	2800	2330	2030*	1560	1240	970
VW Beetle 1200	353	1974	1192	72	27.5	38.5	2	—	—	—	—	2485	2030	1755	1505	1300
Polo L900	408	1977	895	81	19.0	39.5	3/4	—	—	2945	2515	2160	1850	—	—	—
Derby GLS1300	RI 168	1978	1272	94	13.0	36.0	4	—	—	3310	2810	—	—	—	—	—
Golf L1100	411	1977	1093	87	16.8	34.5	4	—	—	3360	2885	2480	2110	1795	—	—
Scirocco GLS (TS)	D7	1979	1588	104	10.6	33.75	6	—	—	4830	4110	3490*	2925	2455	—	—
Passat LS1600	388/RI 165	1976	1588	97	13.1	33.0	6	—	—	4100	3390*	2790	2250	1780*	1370	—
Volvo 343DL auto	D10	1978	1397	88	17.0	30.5	5	—	—	3715	3120	2625	—	—	—	—
244 (144GL)	426	1977	2127	102	12.0	27.5	7	—	—	6165	5200	4385	3740	3145*	2305	1885
245 (145DL) estate	368	1975	2127	96	13.8	24.0	5	—	—	5895	5100	4360	3715	3220*	2480	2055

for the 11,600 miles was now back up to 48.1mpg, but he was looking doleful about three accidents in France: 'A rear side window was knocked in by a thief, which cost me £12, and there were two small traffic accidents — one in which a runaway lorry clipped the car when it was parked. The estimate for that knock is £150.'

There's no doubt that the Golf graduated from DRIVE's long-term test with flying colours. Just one thing was preventing Dr Burstyn from exiting as DRIVE's smuggest Club member: 'I did meet someone in France who had a new diesel engine fitted after a very few thousand miles. I must find out what happened.'

And he will! He will!

Two AA men — DRIVE staff writer Bob Oxford and Doug Houston, head of engineering and equipment development — weren't laughing at Dr Burstyn's diagnosis a year ago. Both sank their savings into Golf LDs at the same time as Peter.

Sadly, Bob still isn't laughing: 'The little Golf has not been all sweetness and light for me. Fuel costs may have been low — I have averaged 43¼mpg over 12,000 miles — but fuel-system problems have plagued the car in recent months. On too many occasions, it has ground to a halt at the side of the road, and refused to restart.'

'Paintwork has suffered, too,

and it has taken a lot of work with an aerosol spray to keep it looking smart. Uneven tyre wear on the front wheels has reduced two tyres to a state of being nearly illegal after 20,000 miles, but the local dealer — Martins of Basingstoke — assures me that the tracking is fine. Its answer is to move the rear tyres to the front . . .

'On the plus side, the ride is very good for a small car and — once used to the vagueness of the brake pedal — the handling is a delight.'

Doug Houston's happier: 'Total fuel costs for 1979 were £240.14 for 9615 miles, making 2.5p per mile. Repairs and maintenance costs worked out to £84.93 or 0.88p per mile. Overall, the consumption for 1979 worked out at 46mpg although it is down to 42mpg at the moment; I can't explain that.' Doug, by the way, is a Scot . . .

'However,' he goes on, 'the fuel gauge has always been inaccurate, and the car runs out of diesel just as the needle reaches the red zone. And the headlamps aren't good, neither on dip nor main beam.'

Doug loves the seats, belts, steering, gear change and clutch and wash/wipe arrangement, as well as the mpg, but he dislikes the poor headlamps, vague and spongy brakes, poor performance — oh, and filling the car at the grotty diesel pumps normally frequented by lorries.

TRIUMPH SPITFIRE Final report

Faint praise...

WHEN BOOK BUYER Carole West spent £3000 on a new pageant-blue Triumph Spitfire, a year ago, she promised DRIVE that she would cover 10,000 miles in the next 12 months. In return, we promised that her every problem would be noted by expert AA engineers so that we all could learn something about Triumph reliability and BL dealer service.

It just goes to show you can't trust these women: we last saw the car as it was coming up to its first birthday . . . and its first major service! Nonetheless, the things that we did discover over Carole's 5000-mile year are worth knowing.

Check 1, at 380 miles

AA engineer Glyn Marrett began by tracing some of the wind noise to insecure and misplaced weather strips on the lower window edges, and loose bonnet catches were setting up a rattle. There was a small dent in the nearside front wing, the nearside screen-wash jet was aimed too low, the boot light didn't work, and the speedo trip-reset cable was missing. Underbody, he spotted an oil leak from the rear

section of the sump gasket — disappointing on a new car — and two 'blowing' exhaust joints.

He found no evidence of rust, however, and Carole announced that she planned to have her car Ziebarted to keep it that way.

Check 2, at 2088 miles

By 1 May 1979, AA engineer Bernard Tasker noted, the showroom shine had begun to suffer: a carpark crash had put a hefty dent in the nearside rear wing. On the other hand, Carole's rustproofing treatment had been generously applied . . . which was probably responsible for the stiff door-lock operation: rustproofing compounds are not noted for being good lubricants.

Some valve-gear noise was audible, but Tasker felt this was nothing to worry about: it should be tackled at the next service. On the road, however, he was unimpressed by the engine's harsh note and a distinct rumble at 3800rpm — 68mph in top gear. The distributor, too, was noisy, rattling in a way that suggested a fault in the drive gear or shaft.

On the ramp, Tasker found a real head-scratcher of a problem with the rear universal joint, that could lead to early failure — pieces of carpet entwined round the nearside rear driveshaft and hub. He removed the material before it had a chance to cause damage, but how did it get there? Carole swore she hadn't been driving it round the living room.

Tasker concluded: 'The car seems very ordinary, provoking no pet hates or likes. Damning with faint praise?'

Check 3, at 3030 miles

Carole took the criticism to heart, and, this time, we could see that the dealer had been busy rectifying faults — not least the crumpled wing. Glyn Marrett, recalled for this third check, felt that the repair had been carried out to an acceptable standard, with the exception of the leading area: it had been inadequately 'flatted' before finishing, leaving coarse preparation marks. He noted, too, that the new panel had been tack-brazed as opposed to spot-welded — a rather old-fashioned approach.

The distributor chatter had been considerably reduced, but a knock was still coming from the vicinity of the automatic advance mechanism, and the distributor casing oscillated when the spindle rotated.

The only thing that Carole could be faulted for missing was

DEAR DRIVE . . .

Spitfire pilots' reunion

If the customer is always right, then the Spitfire certainly wins on a show of hands: Spitfire-owning DRIVE readers were four-to-one in its favour.

Self-employed salesman David Tucker, from Andover, Hampshire, runs a Spitfire — his third — for business and pleasure. 'They have been reliable apart from the universal joints on all three that needed replacing, and a total of two broken coils, two burned-out indicator switches, and two broken rubber bonnet cushions. Apart from these very small points, regular servicing and normal running costs have been the only expense. Maybe I'm just a lucky Spitfire fan.'

Mrs R L C Chapman, from Tokers Green, near Reading, has also had a happy time since she bought her Spitfire on 1 May 1976. In three years, her only irritations have been a seatbelt that rattles and — a design fault — a fuel gauge hidden by the

steering-wheel rim. 'I love driving the Spitfire, especially with the hood down.'

Mr G Dobson, from Worksop, Nottinghamshire, caught the Spitfire bug with a Mk III 1970 model, followed this with two Mk IVs, and now has a 1979 1500. 'It is a fairly quick motor, but a bit reluctant to rev over 5000rpm. It is faster than the Mk IV, but not so quick as the old Mk III. No real grumbles, just disappointments over little things that really should not be wrong.'

PC Paul Connell, of the Metropolitan Police Training School, Hendon, told us: 'I have had very few faults, notably similar to those of Carole West — loose bonnet catch, high engine idle, boot light not working, washer jet low. But all of these were put right with the greatest possible speed by the garage.'

PD Turner, of Sutton-in-Ashfield, Nottinghamshire, took

11 pages to depress us 'all. He bought his car in August 1978, complete, he says, with spongy brakes, warped nearside door trim and a passenger door that had to be forced open. At 1000 miles, the rear shock absorbers were leaking, there was a knocking from the engine, a screw was 'missing' from the carburettor float chamber, and the brakes were prone to severe fade.

A faulty temperature gauge was replaced by another faulty temperature gauge, and, at 3000 miles, the gasket between the manifold and the exhaust failed.

At 6000 miles, the brakes were bled, a new choke was fitted — the original had been pulled out of the fascia — and the driver's door was difficult to open.

By January 1979, the exhaust gasket had blown again and had been replaced, along with a nearside driveshaft and bearings. The boot lock and driver's door lock had failed, and braking was now accompanied by an ominous 'loud banging' . . .

the failed lighter, but, then, she is a non-smoker. Marrett, however, added a number of little 'dirty hands' problems to her list for the next visit to her garage: the near-side steering gaiter was split; the sump gasket was still leaking oil; there was a pinhole in the front weld of the silencer; the differential-pinion oil seal was leaking slightly; and the wind noise remained.

'Over the last bank holiday,' added Carole, 'the oil light came on at low revs and then at higher revs. Because it was a holiday period, I couldn't get anyone to look at it. In the end, I called out the AA, and a patrol fitted a new oil seal on the spot.'

She took her car to her local dealer in Basingstoke, Hampshire: 'I got very cross, and told them I didn't want to see it again until every job was done . . .'

Check 4, at 4254 miles

The paint was split at the offside leading edge of the roof trim, where surface rust was making a home. And, while the driver's window had been adjusted to cut the wind noise, it was now fouling the roof and removing the paint.

Glyn Marrett noticed that the distributor had been replaced, but oscillations were still there — probably caused by a distorted drive; slight oil seepage from the engine drain plug was blowing back and running down the exhaust bracket, causing a nasty smell; and the differential-pinion oil seal was still leaking.

Marrett added: 'The engine now misfires and tends to stall at idle, and the exhaust CO fluctuates from 2% to 3%, suggesting the carburettors need balancing.'

Carole agreed that it was cutting out when it got hot. 'But I'm still happy with it. It's just the wind noise, now . . .'

Check 5, at 4994 miles

With just over 700 miles covered in two months, it was not surprising to see few changes. Bernard Tasker took on the final check.

He began with that 'foul' window, still hitting the roof: 'It is a matter of time before the glass is damaged, and a good deal of paint has already been worn away.'

There was slight play, now, at the nearside front wheelbearing, but that wouldn't have long to wait for the first major service. That long-awaited event should also correct the headlamp alignment, now dazzling oncoming drivers on dipped beam.

Carole's relationship with her local dealer seemed to be under a strain, though: 'They tell me nothing, now. I have taken it back to them every time your engineer has found anything wrong, but the engine still misfires.'

'It all sounds bad, but, overall, I haven't been unhappy.'

ROBERT OXFORD

DRIVE TRAIL

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DRIVE TRAIL



CONSUMER AFFAIRS

Horses for courses

'CAN'T DO ANYTHING for her, sir,' said the ostler at the coaching inn. 'Your horse has been lame for some time: she's fit only for the knacker.' Henry ground his teeth and thought of what he'd like to do to Honest Fred, the dealer who had sold him Brown Bess with such glowing assurances just the day before.

Things got worse the next day, when Henry heard from Sir Jacob Hardwicke, the family solicitor, that there was little prospect of taking Honest Fred to court with any success: Fred's cleverly worded contract avoided any liability for the horse's condition, so

Henry would have to put the whole sorry episode down to experience. Perhaps, he reflected, he should purchase a horseless carriage. After all, a machine can't go lame...

Threequarters of a century on, it all seems depressingly familiar. Man's personal transport is more important to him than ever — and causes just as many problems. What has changed is the legal protection that its buyer enjoys.

In 1905, the law assumed that people entering into contracts to buy and sell goods were bargaining on equal terms, and that no legal interference with their negotiations was necessary. Though the Sale of Goods Act of 1893 required every contract for sale to have terms concerning the quality of the goods, it was still possible for the seller to exclude those terms from the contract. The use of exclusion clauses in so-called guarantees was a loophole through which many Honest Freds and their successors were to escape for many decades.

The courts did their best for unlucky buyers by interpreting exclusion clauses strictly, but the problem was not to be solved until

the 1973 Supply of Goods (Implied Terms) Act. This Act over-ruled exclusion clauses, and required goods to be of 'merchantable quality' — that is, fit for the purpose for which they are sold, and fitting any description applied to them.

A modern-day Henry with a less-than-merchantable new car can now sue his dealer for breach of contract, and any warranty from the car's manufacture is a bonus that cannot alter the rights he has against the dealer.

Though consumer protection has come a long way since 1905, there are still pitfalls for the new-car buyer. One of them is proving that the car which he wants to reject really is unmerchantable. If a washing machine fails to clean clothes, or a floor polisher to shine floors, the buyer's case is clear-cut because the goods are clearly not fit for the purpose for which they are sold. A new car, however, may successfully transport four people down the road, yet suffer from a series of minor faults that accumulate to annoy the owner. If he wants to have his money back, it's not certain that the Supply of Goods Act will help him, so perhaps he

should have looked harder before accepting the shiny new car...

Of course, there are more-serious car defects, where death or injury is caused by a faulty component. At present, compensation can be recovered under the terms of the dealer's contract of sale, or from the manufacturer if negligence can be proved.

This is unsatisfactory for the consumer because only the parties involved in the car's sale can sue, and not everyone — a passenger, for example — who is killed or injured by a defective car will have had a contract with the seller. Proving negligence against its manufacturer is also difficult.

There is a proposal to change the law so that a consumer would have to show only that he had been injured by a defective product, and that the defect existed when it left the factory. The manufacturer would have to accept liability and pay compensation, however careful he had been in the car's making.

Whatever happens, there is one natural law that is as true for the consumer of today as it was in 1905: legislation is no substitute for old-fashioned horse sense.

ANTHEA WORSDELL



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save £16-plus!

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NB Don't want to cut the coupon and spoil DRIVE? If you don't, please print all the same details in the same order on a plain sheet of paper or postcard. Offer available only to readers in Gt Britain and N Ireland, closes 31 October, 1980

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Send me _____ PBM945
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NO MORE CRUSH-HOUR travelling — take your wardrobe on holiday with you. DRIVE's great summer offer is this smart, three-suit or three-dress wardrobe case (left), designed to keep the cream of your clothes hanging crease-free, yet folding into a handy piece of handsome luggage. There's room, too, for two pairs of shoes in four separate pockets, a large external compartment for extra clothing, and — a bonus for the businessman — and integral full-length folio case. When you arrive, you don't even have to unpack: just open out the case and hang the whole thing by its own hook. A great idea? Yes, but the best is yet to come: this £30 piece of luggage is yours for just £20.30, including delivery. Simply fill in the coupon.

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Pick of the bunch no more

Datsun New Cherry 4-door saloon

From £3179 on the road (VAT)

cover if its sub-litre engine can cope with the plump New Cherry.

How it goes

Datsun's tiny power unit has ripened for many years, but remains as traditional as cherry pie. Its crankshaft spins in only three main bearings, its valves are operated by pushrods, and power output is still a modest 45bhp. The snag is that it now has to cope with higher overall gearing and considerably more bulk and weight than the original model, while most of its rivals are losing weight and improving efficiency.

Consequently, this latest Cherry is fractionally slower compared to its predecessor, and

considerably slower and more thirsty than the original. The hard facts are that it takes 3½sec longer than the Mark I to accelerate from 30-70mph through the gears, and loses 3mpg, too. Needless to say, the New Cherry's performance hardly blossoms in the shadow of its rivals (overpage).

To extract any sense of urgency, the accelerator has to be floored most of the time, though the engine is willing to respond by spinning far faster than its point of peak power. This doesn't help top-gear acceleration, however, where the gap really opens up between the Cherry and its competitors: overtaking and hill climbing need the lower gears.

Thankfully, the ultra-light

clutch and smooth gear change take the effort out of constant cog-swopping, and despite the gearbox's occasional jib at first and reverse gears when stationary, the system is one of front-wheel-drive's best.

There's equally little to complain about in the New Cherry's road manners. Its rack-and-pinion steering is nicely weighted and responsive, with less kick-back than on the original model — and less road 'feel' as a by-product. As expected of a modestly powered front-wheel-drive car, the Cherry's bonnet drifts wide of its intended course as cornering speeds rise. Body roll at such times is well-controlled, and, though the Japanese-made Dunlop radial-ply tyres squeal too readily at times, there is little that can deflect the Cherry off its course. Such fail-safe cornering,

Britain's two best-selling Japanese cars in 1979 were both Datsuns. We tested the more-popular New Sunny in that year, and now sample one of the crop of new Cherrys in its fresh skin.

This cheapest and smallest range of Datsun cars has been rebodied twice since its 1971 launch, each version plumper than the one before. The result is a front-wheel-drive 'small' New Cherry that occupies more kerb space than an Austin Allegro or a Volkswagen Golf — not to mention the super-minis that it competes with in price and engine size.

Most of this six-car range of hatchbacks, saloon, estate and coupé are still powered by the same 988cc engine that sped the original, 2½cwt-lighter Cherry. So we took the road in the popular 4-door saloon to dis-



and the car's steady line on a windy motorway, lead us to suspect that this new suspension would be capable of handling the extra power that the New Cherry saloon so evidently needs.

There is a little more legroom for the driver in this latest model, though it was not enough to please our long-legged testers. The seats, too, are more generously proportioned, but their support has not improved. Some testers left the New Cherry with aching backs after a long drive, and only short drivers felt more comfortable and in control.

All the major controls are easily found, and handy column stalks on either side of the plastic steering wheel work the minor functions with typical Japanese precision.

While the instrument panel is rather basic and looks a 1950s period-piece, it is in clear view through the steering wheel. The speedometer could be made more readable and should be made more accurate, showing 4mph fast at 30mph. The odometer performs rather better at 1½% fast, and there's a trip recorder, too. There's little other instrumentation — only fuel and coolant temperature gauges and a dial containing five warning lamps, including a choke warning. DRIVE still awaits the appearance of a low-fuel warning lamp.

Driving vision is thoroughly thought out. Halogen headlamps are now standard, and there are also powerful reversing lamps. A large door mirror and dipping rearview mirror ensure good rear vision, and the two-speed wipers give a clean sweep in this righthand-drive version. The heated rear screen's switch, situated under the fascia, seems a bit of an afterthought as, once switched on, it's easy to forget and leave it on all day.

How comfortable

We'd have been happy to trade the New Cherry saloon's modest performance for extra space, but its plumper external dimensions are squandered inside. The only gains to be found are in seat width (3in more in the back) and a little more headroom. That critical measurement, rear-seat legroom, has not improved and is still inferior to that in most other, shorter super-minis. Unless those in the front are prepared to slide forward a little, passengers in the back have to do an uncomfortable knees-up. The backrest is sensibly angled but is poorly padded, and on bumpy roads its hard metal supports made their presence felt. Having four doors is a nice bonus at the price, and they open reasonably wide.

The boot's space has been improved slightly to make it

acceptably roomy, but it's still not a patch on the Volkswagen Derby's. It can be opened either by key or a remote-control trigger next to the driver's seat — novice Cherry drivers tend to open the boot when trying to adjust their seat. There is no sill to frustrate the loading of heavy items, but beware of the low-rise boot lid and its latch mechanism, which can scalp the unwary. The spare wheel sits in a well in the boot floor, so all has to be unloaded in the event of a puncture.

Storage space for oddments is limited — just a small, non-locking glovebox and a small tray between the front seats. Datsun discourages rear-seat smoking, too, for the one ashtray there is set in the back of the driver's seat. Unusual extras in this low-priced Datsun include tinted glass and front head restraints that also serve as cosy headrests. The interior of our car was finished in shades of blue — a refreshing departure from the light beige used in so many Japanese cars — but its dark-blue headlining seemed rather oppressive.

Heating and ventilation work well in *extremis* — all hot or all cold — but it's tricky to achieve intermediate settings. Demisting is prompt, but rear passengers' feet tend to get left in the cold.

Overall, the New Cherry is a light and undemanding saloon to drive, and our test car's few driving faults were mostly the carburettor's. After its usually prompt start, the car had to be nursed through its lengthy warm-up period with generous

doses of choke to prevent hiccups. Once the correct operating temperature had been reached, the engine still missed the occasional beat while idling, and there was an embarrassing 'flat' spot to contend with when pulling away from junctions.

There is still a tendency for the Cherry's ride to be restless when running lightly laden, and it changes to pitching and wallowing when there's a full load on board. Nevertheless, its ability to absorb bumps is more versatile than Ford's Fiesta and VW's Polo.

Low-speed cruising is accompanied by unpleasant gear whines that disappear at mid-speed, only to be replaced at 70mph by an exhaust boom that can irritate rear-seat passengers.

How strong

Large, unstressed body panels that flex under the lightest pressure do not inspire confidence in the New Cherry's longevity. It could quickly display all manner of small dents on its doors and boot lid in the hands of a careless owner. To guard against other careless drivers, however, there are plastic end-caps on the bumpers, and a slim side moulding.

Mudflaps would help to prevent the side panels from being blasted by road dirt but, thanks to the absence of the needless brightwork that Datsun once used, the New Cherry saloon is not a difficult car to wash. The interior is equally easy to brush and polish.

Underneath, Datsun has had a good attempt at protecting exposed areas such as the wheelarches — the front ones have plastic shields — but in our test car's box sections and door interiors there were already signs of rust.

Earlier Cherry models have earned an excellent reputation for mechanical reliability, and as there is nothing new under the skin of the New Cherry, owners' garage visits should be few.

Despite the inevitable complexities of front-wheel drive, which still worry some motorists, the Cherry makes a good first impression on the mechanically sympathetic. Its works are well laid out, oil-tight and easily reached, and there's good fuse protection for the electrics.

How safe

The brakes feel fine in ordinary use, but in an emergency their maximum stopping power is less than satisfactory. The best reading that we recorded was a mediocre 88% efficiency — and despite the servo's assistance it took a heavy 95lb stamp on the pedal to achieve even this. But press just a little harder and the front wheels lock up and skid hopelessly. *Not* what we look for

DATSUN NEW CHERRY SALOON

Parts/repairs (inc VAT)
clutch £55.89 (fitting 1.5hr)
exhaust £48.60 (0.7hr)
headlamp unit £8.96 (0.4hr)
front bumper £37.05 (0.4hr)
laminated windscreen £51.26 (1.8hr)

oil filter and points £5.11 (0.7hr)
major service 12,000 miles (3hr)

Insurance group 4

Warranty 12 months/unlimited

Standing costs per year/12,000 miles

Loss of value £171
Capital interest £201
New-cost inflation £393
Total standing costs=£765 (6.38p per mile)

Running costs

Petrol (£1.38p per gal) £430
Insurance (av) £165
Road tax, AA sub £60+£26
Servicing/replacements £157
Total running costs=£838 (6.98p per mile)

Total cost of ownership £1603
(13.36p per mile)

HOW IT COMPARES

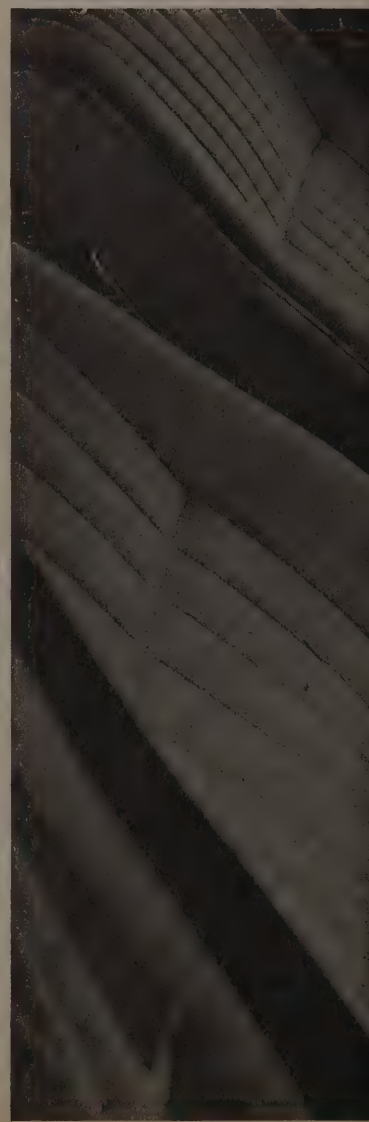
Datsun New Cherry 4-door saloon

Ford Fiesta 950L

Lada 1200

Talbot Sunbeam 1.0LS

Volkswagen Derby LS



HOW GOOD

At-a-glance

DRIVE's verdict on the Datsun New Cherry 4-door saloon, taking into consideration its rivals, its price and what kind of car it's *meant* to be

Out of 10

PERFORMANCE

●●●○○○○○○○

FUEL ECONOMY

●●●○○○○○○○

HANDLING/STEERING

●●●●○○○○○

COMFORT/REFINEMENT

●●●○○○○○○○

INTERIOR SPACE

●●○○○○○○○

PASSENGER AIDS

●●●○○○○○○○

DRIVER AIDS

●●●○○○○○○○

ACCIDENT/INJURY SAFEGUARDS

●●●●○○○○○

RUST RESISTANCE

●●●○○○○○○○

COST/EASE OF REPAIR

●●●●●○○○

ACCELERATION times in sec

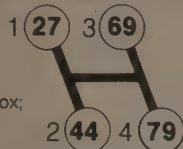
MPH	THROUGH GEARS	IN TOP GEAR
0-30	5.4	
30-40	3.3	9.3
30-50	8	18.7
30-60	14.8	30.7
30-70	27	48.6



Top-gear speed range times (sec)

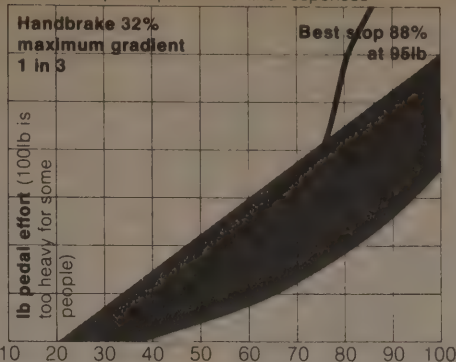
TOP SPEEDS

max engine speed
used 6200rpm;
max in top 5000rpm approx;
standing ¼ mile
21.9sec



ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
3251	988	38½	79	27.0	48.6	88/95	12' 9¼"	39¾	35	3¼/33¼
3066	957	41	83	22.2	36.2	97/50	11' 8½"	40	39¾	3½/31½
2601	1198	28½	84	26.4	39.8	97/70	13' 4"	39	38	3/36
3240	928	39	78	33.7	38.9	98/60	12' 7"	39	36¾	3¾/30½
3781	1093	38	87	17.5	25.4	95/80	12' 8"	40¼	36¾	3¾/30½

BRAKES pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)

65lb at start; **44lb** in constant use; **140lb** in severe use

Watersplash immediate recovery

FUEL 2-star/88 octane min

Consumption — normal range

short journey in the suburbs	33mpg
hard driving, heavy traffic	33½mpg
motorway — 68mph cruising	34mpg
brisk driving — 50mph cruising	38½mpg
gentle driving — rural roads	48½mpg

Typical mpg overall **38½mpg**
Realistic tank range 385miles/10gal

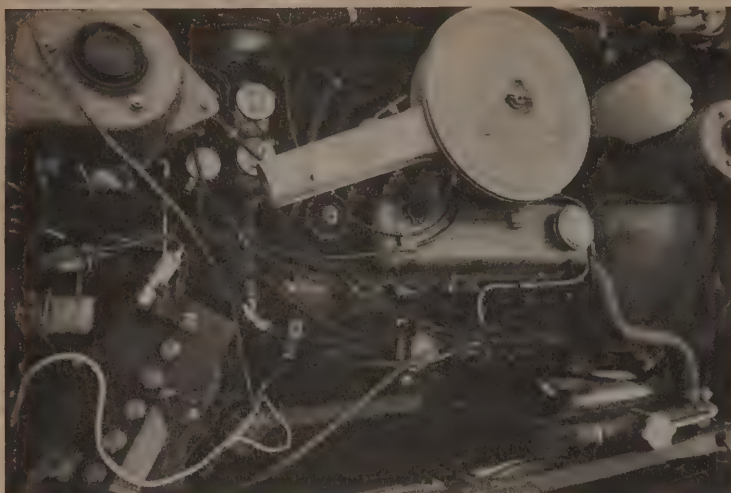
Consumption at steady speeds

30mph	65½mpg
56mph	45½mpg
70mph	31¾mpg
max mph	24¼mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	head restraints: front?	Yes
good road 'feel'?	Yes	rear?	No
brakes: powerful?	No	interior: well padded?	No
sensibly servoed?	No	w/screen laminated?	No
fade resistant?	No	doors: childproof?	Yes
belts: effective?	No	latches crashproof?	Yes
convenient?	Yes	petrol: shielded	
fitted in rear?	No	filler?	Yes
		protected tank?	Yes





in a good braking system... Brake fade is a serious problem, too, which could make long, steep hill descents tricky. Our braking data also shows that the system's recovery from the watersplash test was immediate. Well, that's what our meter said, but we say that the resulting brake tremor felt as if the Cherry had grown oval wheels. Only the handbrake performed faultlessly, holding the car firmly either way on a 1-in-3 hill.

Roadholding is utterly safe and predictable, with no violent

repercussions when one speeds into a corner and then backs off the accelerator in panic. In this respect, the New Cherry is equal to the best of its European rivals, but in terms of secondary safety features we were not happy with the seatbelts' long centre stalks. They tend to dig into the wearer's ribs, particularly when the seat is set back, and could be nasty if one is thrown their way in an accident. Roof padding could be better, too, especially above the windscreen.

Otherwise, the interior looks

safe, with no serious projections. The rear doors have childproof safety locks and the exterior door handles are the semi-flush type that will not allow the doors to fly open in a side-swipe. The fuel tank is located out of harm's way, and the filler is safe behind a flap.

How much

With three- and five-door hatchback versions, this four-door saloon, a sports coupé and a five-door estate car, Datsun's New Cherry offers the widest range of body styles of any manufacturer in the small-car market. All are reasonably well equipped and extremely competitively priced — currently, the cheapest hatchback model costs less than an Austin-Morris Mini 850 Super, for example. Only two options appear on the price list, a radio and metallic paintwork, and these, too, are considerably cheaper than most other makers'.

Trade-in prices on used Cherrys have always been good, but curiously it is not a cheap car to insure, being rated one or two groups higher than many rivals. Parts prices are certainly not the reason; though they are no longer the bargain they once were, they still have the edge on others.

Fuel consumption may be

3mpg worse overall than the original Cherry, but it remains the same as the Mk 2's, and the fact that the New Cherry is designed to run on 2-star petrol helps to erode the advantage of some of its 40mpg, 4-star competitors. So, at the end of the day, its fuel economy is no longer outstanding, just respectable — just.

Verdict

In 10 years, Datsun's Cherry has branched out into the most diverse small-car range of any manufacturer. Current owners already appreciate its reliability and low running costs, and prospective buyers may well overlook the New Cherry's carburation problems in favour of its easy driving and even-easier asking price.

What DRIVE's testers cannot overlook is that the New Cherry has outgrown its roots — so much so that Datsun no longer has a true small car to offer. This wouldn't be a problem but for British buyers' insistence that such a bargain-basement car must have a tiny 11litre engine, too. This once-adequate unit is now outperformed in its class, and, in this heaviest of Cherrys, also proves a false economy.

Datsun should follow Toyota's response to our criticism of its underpowered 11litre Starlet: it now offers a 1200cc unit for improved acceleration with the same fuel economy.

How long before the New Cherry saloon is made the pick of the bunch with the 1200cc engine that's presently reserved for Datsun's coupé and five-door hatchback?

ENGINE

Type and size front-mounted, transverse 4-in-line, water-cooled; 73mm bore x 59mm stroke = 988cc; 3 main bearings; iron block/alloy head

Compression ratio 9:1

Valve gear overhead pushrods and rockers

Fuel system one twin-venturi carburettor fed by mechanical pump from 11gal tank

Max power (DIN-net) 45bhp at 6000rpm

Max torque (DIN-net) 47.7lb ft at 4000rpm

TRANSMISSION

Clutch 7½in diaphragm spring, single dry plate, cable operated; pedal load/travel: 20lb/4½in

Gearbox 4-speed (all synchromesh) and reverse. Ratios: first 3.67:1, second 2.22:1, third 1.43:1, fourth 1:1, reverse 4.09:1

Final drive 4.07:1 to front wheels

Mph per 1000rpm 15.3 in top gear

CHASSIS

Suspension — front: independent MacPherson damper/struts, coil springs and lower wishbone; rear: independent with trailing arms with coil springs; dampers; telescopic all round

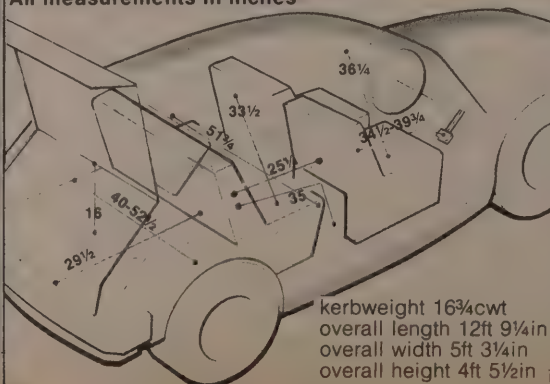
Steering rack and pinion, 3/4 turns between full locks; turning circles average 33½ft between kerbs, with 55ft in response to one turn of the wheel

Wheels 4½J steel rims with 155SR13 steel braced radial ply tyres — Dunlop SP4 (Japanese) on test car

Brakes dual-circuit hydraulics; discs front, drums rear, vacuum servo, low fluid level/handbrake warning lamp



All measurements in inches





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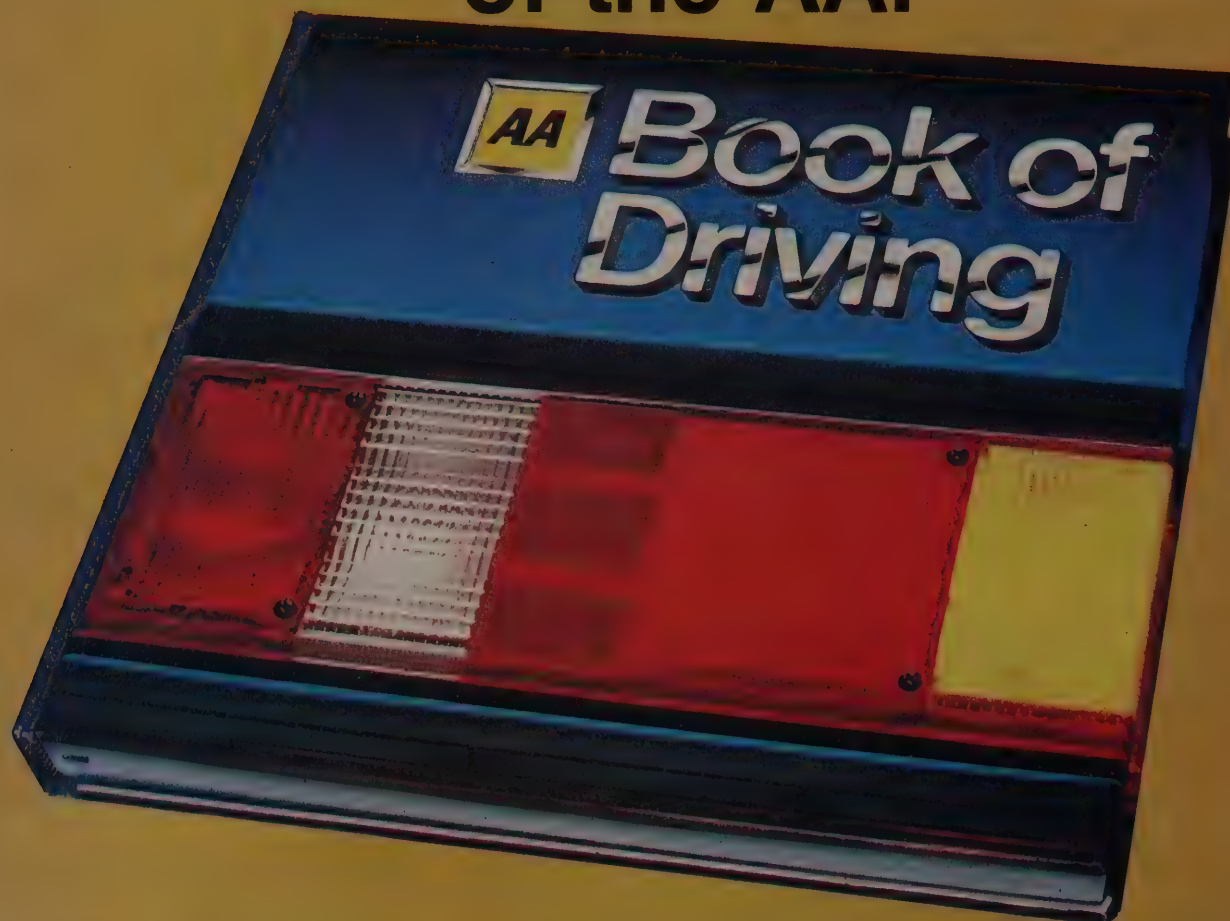
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Your type, two?

VW Devon
Moonraker

Devon Conversions, long-established in the art of adding flip-tops to Volkswagen vans, has proved to be the most popular Kombi converter in Britain over the past decade. Hardly surprising, then, that it is remaining loyal to the marque by using VW's new model for its restyled, four-berth Moonraker in the 1980s.

But don't expect anything very different from VW's Type 2 80, as the new, improved Kombi/Transporter is officially known. Apparently, after studying a dozen different configurations of engine and transmission, the W

Germans came back to square one, reckoning that they had got the vehicle more or less right at the first attempt.

Have they — and has Devon? We went west to investigate this latest Anglo-German alliance.

How it goes

A dab on the throttle to set the automatic choke, a twist of the key, and old faithful — the familiar four-cylinder, air-cooled *boxermotor* — slogs into action way back in its corner of the tail.

The 2litre version has twin Solex carburettors, electronic

ignition and hydraulic tappets... and the clever knack of adapting readily to the driver's mood. It's happy to lounge along at speeds down to 20mph in top gear when your time's your own, and it can be hustled along with impressive verve when you're late for your campsite booking.

Flooring the throttle (an ignition cut-out prevents over-revving) results in a rather academic 0-50mph time of 14.9sec. Keep going, and the speedo needle (optimistic on our sample) will wind itself round to beyond 90mph — with a following



wind. We averaged a true 85mph on the test track, but don't push your luck this hard on public roads — emerging from the lee of a lorry can still cause a heart-stopping sway on the motorway. Apart from this familiar but unpleasant Type 2 trait, cruising at 65-70mph in top gear sounds and feels effortless, much of the engine noise being left behind.

The acceleration times we recorded for this latest 2litre are very similar to those of the previous model, though ours had covered only 500 miles, so we would expect its figures to be improved slightly with further mileage. The respectable top-gear 30-50mph in 15.1sec remains no match for the 1700cc Sherpa's spanking time of 10.9sec recorded with a Suntor (December-January 1980). Third gear does give more-spirited acceleration for overtaking, however, but it's no hardship to make the shift down. The hydraulic clutch has a medium-weight action and, like the easy-going gear lever, calls for long operating movements. Nevertheless, gear changing is smooth and easy, except for some baulking into first at standstill.

As our tabulated figures show, the Moonraker's consumption can vary by about 10mpg. Gentle country-road use pays off handsomely with almost 28mpg, but if you use the vehicle as everyday short-journey transport don't expect more than a budget-straining 18mpg. The 13¼gal tank is a quick filler, and oil-level checks are a simple, Sunday-best task, thanks to a small dipstick/filler flap in the van's tail.

Though high-sided lorries and gusty winds come as a big blow to the VW's straight-line stability, the new rack-and-pinion steering is smooth and accurate, and displays virtually none of the unpleasant free play noticeable on several other vans. It's easy to manage, too, becoming weighty only when manoeuvring at low speeds, and the excellent turning circle of 35ft will get the driver out of (or into) many a tight spot when parking.

Shortcomings though the VW may have, its brakes are superb. The pedal's servo-assisted pressure is cleverly balanced to give just the right weight and feel to the disc/drum set-up for both check braking and anchoring in earnest. In an emergency stop from 30mph, the brakes give a stomach-heaving 94% efficient stop in a dead-straight line, with minimal nose-dive and virtually no wheel lock — very impressive. The handbrake, too, is powerful and light to operate.

So far as converted European commercials go, the VW's ride is probably the best in the business, and is made the more impressive by the absence of the thumps, squeaks and rattles that too often

accompany a motor-caravan's progress. Normally smooth and level, the suspension takes broken surfaces with well-damped, unflurried ease and is only occasionally caught on the wrong foot by a bad pothole. But, having said that, we should add that two lady passengers, each on different occasions, complained of feeling queasy when travelling in the back. We put this down to the fact that both of these 5ft 4in passengers were prevented from using their feet firmly on the floor to combat side-sway by the 20in height of the seat cushion.

Far from being the tail-heavy oversteerer you might think, the Moonraker runs wider into understeer the faster it is cornered. Indeed, its predictable handling on the grippy 185 Michelin XZXs means that it's a very competent bend-swinger, hustling through corners with great verve and little body roll. Should you find it powering too wide of your intended course through a corner, simply ease off the accelerator. With such handling available, that final dash to the Channel ferry actually could be fun — for the driver, at least.

At the wheel

The Moonraker is car-like — well, German car-like — in the comfort of its cockpit. The firm, no-nonsense seats, which slide and recline, have ways of making you sit straight; support is positive — a good thing in the long run; rock-hard head restraints can be adjusted for height; and a large handwheel alters squab rake which, on the passenger's side, is somewhat restricted by the table top being stowed vertically behind the seat.

The driving position is fine for taller drivers, who will like the comfortable relationship between the wheels, pedals and gear lever; others will find the lever a stretch away. All-round vision is excellent, thanks to this version of the Type 2 being very generously glazed, as standard. The windscreen pillars are quite thick, but the screen itself is wide and deep and is served by powerful washer jets and splendid two-speed wipers, the latter thoughtfully transposed for right-hand drive. Two big door mirrors adequately compensate for the 1ft of rear vision stolen by the wardrobe and curtain.

Instrumentation is confined to a clear speedometer and fuel gauge, set in a raised binnacle together with warning lamps and rocker switches to the sides. One column stalk on the left works indicators, flash, and dip, and another on the right controls washers and wipers with crisp efficiency. Cab features include rubber matting, a roof lamp, a lidded facia locker and a pillar-mounted handle for the passenger



— there isn't one to help the driver haul himself aboard. The battery is housed in a lidded box under the driver's seat, with a matching storage/tool box on the other side.

On the safety front, there are big, crushable sunvisors that can be unclipped and swung to the side, a detachable interior mirror, and inertia-reel seatbelts that pay out with a silky-smooth action and are a pleasure to wear. Unfortunately, the facia looks, and feels, painfully unyielding.

Given a long weekend's acquaintance, it's possible to work out which heater/ventilator lever does what, where, and to whom. By air-cooled engine standards, it's a clever system, and such is its versatility that, once warmed-up, copious quantities of air can fry or freeze the driver or both front-

seaters — once the right upstairs-downstairs balance is achieved. Air is not only well-directed throughout the cab via vents and adjustable grilles, it is also piped through floor slots into the passenger compartment; but the bad news is that none of the main body's side windows opens, so through-flow ventilation is rather poor.

Living in it

Though it makes enough noise to wake half the campsite when it's banged shut, the big, strongly-sprung sliding door gives plenty of elbow room; Gran will need a hand to cope with its 18½in step-up, though.

Once aboard, the first task is to flip open the glass-fibre lid and elevate the roof. This is done by unclipping a pair of external

PRICE £8103
On the road £8235.45
Running costs £887.95 per year
 7.93p per mile

PARTS/REPAIRS

(inc VAT; fitting time in brackets)
 clutch £95.28 (3.0hr)
 exhaust £88.73 (1.2hr)
 headlamp unit £30.21 (0.2hr)
 front bumper £28.15 (0.5hr)
 laminated windscreen £47.73 (1.3hr)
 oil filter £3.01 (0.1hr)
 major service 10,000 miles (3.5hr)
Optional extras Electrolux 122 fridge (1cu ft) £147.20

FUEL

2-star/91 octane min
 overall consumption 22mpg
 effective range 270 miles/13½gal tank

Normal range of consumptions

short journey — suburban 18mpg

mixed roads — brisk driving 21½mpg
 motorway — 65mph cruising 22mpg
 quiet rural — max 40mph 27½mpg

PERFORMANCE 0-50mph 14.9sec;
 30-50mph, top gear 15.1sec; top speed 85mph; maximum brake efficiency 94%

Water tank

7½gal

Berths

two double beds

Tyres

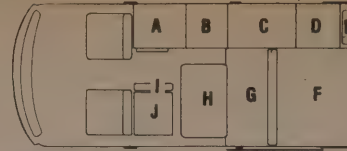
185SR14 radial-ply

DIMENSIONS

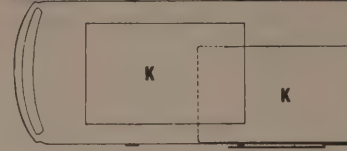
Overall length 15ft 0in; width 6ft 1in;
 height 7ft 3in; turning circle 35ft; front leg-
 room 38½-46in; front headroom 39in; max
 headroom 98in; kerbweight 33½cwt

Manufacturer Devon Conversions Ltd,
 Sidmouth, Devon

DAY



NIGHT



A sink fridge **B** cooker **C** cupboard/gas bottle store **D** wardrobe **E** water container **F** cushion/storage **G** bench seat/storage **H** table **I** fold-down seat **J** seat/toilet storage **K** double bed

catches — trying not to lose their fiddly split pins — and releasing an interior strap. Once it has been given a steady push, four high-pressure struts hiss the roof up to its full height with the zeal of the newly converted. To pull it down, you leap for the dangling strap and hang on like a novice bell-ringer. If no door or window is open, the roof is slow to rise and difficult to pull down, which says something for the vehicle's sealing. There is no window in the roof, only an opening fly-screened vent over the cooker.

The smooth, velour upholstery, criss-crossed chocolate-brown on fawn, has been carefully chosen to match the patterned acrylic carpeting, generously cut nylon curtains and — an unusual feature — the carpeting lining the roof to make a warm, condensation-free ceiling. The furniture, too, is... well, different, with rounded doors and work surfaces, flush-fitting circular handles and plastic laminate on all faces, again colour-keyed and with dark 'coachlines'. Only you can tell if you like it. Even if you don't, you will have to agree that it's neat and well constructed, with everything fitting as it should.

The Moonraker takes three

passengers on the transverse seat, with a fourth sitting with his back — or, in the VW's case, his front — to the engine on a padded box that's commodious enough to take a portable toilet. At mealtime, when the Desmo tube-mounted table is set up (and it's true, it's quicker by tube), one of the diners has to sit on a fold-out seat that's hinged to the box seat.

Trying to squeeze sleeping bags, blankets and pillows for four into the storage box under the main seat is not on, especially as access to it is none too easy. Overspill items have to ride high on the big square cushion in the tail or in the shallow boxes under it. The snag is that this makes opening the door to the small (39in-high) corner wardrobe above the cushion somewhat difficult, and the only other resource is a shallow, tapering over-bed cupboard into which slim items can be posted.

The kitchen and main storage area are on the offside of the van. Our Moonraker was equipped with a gas/12v 1cu ft Electrolux fridge (normally, only a portable, insulated food box is provided) which fits under the sink/drainage unit on the left. Water is fed to the faucet by a small electric pump

submerged in the tall, two-wheeled water container. This is strapped into place in the tail, and is best filled by hose — trying to heave 7½gal up on to the rear deck is no joke.

But perhaps we shouldn't complain; it's always reassuring to be able to keep an eye on the condition of the water container. On hired vehicles in particular, TRAIL sometimes wonders about the long-term salubrity of permanently attached, concealed water tanks.

Thanks to the engine's air cleaner being resited, the rear deck is now 8in lower than in the previous model. This means that the resultant, deeper load space is now easier to load — it also makes an even bigger play area for youngsters.

Opposite the door are two shelved cupboards for cooking utensils and crockery (one with a low cutlery drawer) and a tiny porthole cupboard. To the right is the Fellows double-burner cooker and grill, dazzlingly resplendent in stainless steel and fit for a showman's caravan.

It's cook-only room in the kitchen, where space is restricted by the seats. It's almost impossible to work with the table in place, but there is a 'dishing-up' area on the righthand worktop. This conceals a deep cupboard with a false floor giving access to the vented gas-bottle store. Of the van's two striplights, the one above the sink is dual intensity.

The innocent-looking settee is more of a Casanova's casting couch. With two rubber clips unhooked, a sophisticated hinge slides the cushion forward while lowering the backrest to butt up to the big rear cushion. Instantly, there's a very comfortable 6ft 9in by 3ft 10in double bed — just add people.

Sliding a thickly upholstered panel in the roof, to meet a matching one up-front, forms the top bedroom. It's shaped like a ridge tent, except that one side of the roof is firm and snugly carpeted. On the other side, it's your partner who sleeps only a sheet of thin plastic from the elements. Climb-

ing up to and into the double bed (which is the same size as the bottom one) means standing on the back seat and perhaps on the furniture, too, if you are short, and it would not be impossible for children to tumble down on to unfortunates in the bed below. On the ground floor, bedroom headroom is reduced to 4ft 9in, so parents can only move about with an unseemly, simian shuffle.

Will it last?

Judging by the condition of our test vehicle, VW's legendary quality of car construction and paintwork applies equally to its commercials. Admittedly unsullied by the rough and tumble of a high mileage, our van impressed us by its excellent finish and the reassuring way in which everything worked with well-engineered precision. The factory-applied wax spray rust-proofing should work a good deal more thoroughly than its appearance suggests, and the vehicle's warranty is for 12 months' unlimited mileage.

We have reservations about the long-term durability of the Moonraker's vinyl concertina top, as its life expectancy must be reduced by creasing, pinching and age-hardening. Devon reckons that the material doesn't normally wear out or perish, which could be good news as, at current prices, a new one costs about £40 fitted.

Should you be overcome with the desire to work on the engine, a bit of diligent furniture removing reveals its lift-off access lid. In fact, beyond checking the plugs (you check the oil from outside, remember), there's not a lot to do. Thanks to electronic ignition and hydraulic tappets, it has become almost a fit-and-forget item. The spare wheel lives in a wind-down tray under the cab floor.

Verdict

Viewed objectively, the Type 2 80, or Transporter, as it's popularly known, is one of the least convenient commercials to convert to a motor-caravan, because of its rear-mounted engine and big side door. These factors alone create the old problems of restricted storage space and limited versatility in seating, sleeping and cooking arrangements.

We did come to like the Moonraker's easy-come, easy-go top bedroom, the clever seat-to-bed conversion and its warm and attractive interior. The Type 2's impressive road-going manner and quality construction also give the VW a decided edge over its front-engined rivals.

Even so, after living with the Moonraker, plus points such as these failed to make converts out of TRAIL's testers. But can thousands of devoted VW motor-caravanners be wrong?



Letters

Views to air? Tell DRIVE about your motoring and what it means to you. You can send letters for publication — unstamped — via DRIVE Directory, FREE-POST, AA, Basingstoke, Hampshire RG21 2EA

Points against

DRIVE's article about the merits of adopting a points system in preference to the totting-up procedure (March-April) suggests that motorists cannot help breaking the law and so should not be punished. No one with common-sense can have sympathy with persistent offenders: they know what they are doing, all right, and the majority are so bumptious and cunning that they think they are superior beings above the law.

You can see them in my district, doing about 50mph in a 30mph limit, leering at you as they go by as if to say: 'You poor mutt, look how clever I am doing 50.' But just hear them squeal when they get caught!

Anyone with three speeding convictions should be punished severely, because it's these same clever dicks who speed in thick

fog and are a danger to everyone. C Simpson
Newmarket, Suffolk

● *Point taken, but, to set the record straight, Mr Simpson, it was motorists and magistrates who advocated the changes in the law referred to in the feature. Transport Minister Norman Fowler, too, backs reform.* —
EDITOR

Goods and baddies

I would like to see rear mudflaps and laminated windscreens made compulsory for both cars and lorries, and 'dead man's brakes' on heavy-goods vehicles. Recently, a lorry whose brakes failed crashed into a shop that I own, causing very severe damage.

F A Nichols
Ferring, Sussex

Haunting question

I wonder if the theory propounded by your exorcist (March-April) about malign influences causing drivers to come to grief gives the clue to the apparently puzzling and otherwise inexplicable accidents occurring at the notorious Barham crossroads, on the A2 between Canterbury and Dover/Folkestone.

This is where busy-but-minor country roads cross the route to the channel ports; the junction is out in the open with clear visibil-

ity in and from all directions; yet, although now controlled by traffic lights, collisions keep occurring. A fly-over at the spot is now under consideration.

It occurs to me that is just the spot where a gallows for highwaymen might have stood...

H W Andrews
Dover, Kent

Things that go bump

When will car manufacturers follow the Saab and Volvo example and fit bumpers capable of withstanding minor collisions without damage to bodywork? Most are too fragile and/or badly positioned: to give any sort of protection, bumpers must project beyond the line of the vehicle, but how many do? In my view, the majority are simply decoration.

Perhaps an accessory company could set its mind to producing a strong, cheap over-rider to help solve the problem.

G Buchanan
Bath, Avon

Faithful Rover

Did any other readers notice that the artist's impression of the future Ford Granada saloon in DRIVE (March-April) is very similar in external appearance to the Rover SD1? So, too, are some 'new' foreign cars such as the Renault 30TS.

I have owned four Rovers and

have had outstanding service from all of them, not least from the SD1 that I bought 35,000 miles ago, in May 1977. I have never owned a foreign car, but I am assured by a very experienced garage mechanic that the imports are no more reliable than British cars, and spares are expensive and not always readily available.

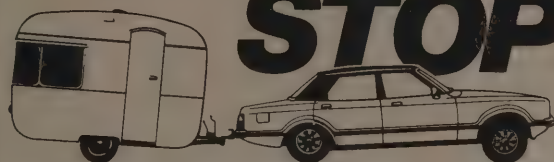
How much is our sheep-like public taste influenced, I wonder, by the delight of the media in Britain bashing?

D S Pullin
Solihull, W Midlands

Cross words

Can I ask DRIVE readers please to take special care when they see pedestrians carrying a white cane? Drivers can help the visually handicapped by being extra careful at road junctions, traffic lights and particularly at Pelican crossings. Because of the impatience of some motorists, blind people are sometimes encouraged to walk to an apparently clear stretch of road farther on and attempt to cross there. The trouble is that it's in these situations that accidents happen, as vehicles are travelling both more quickly and quietly.

Allan Yates
Branch Secretary
Blackpool and Fylde Branch
National Federation of The Blind of the UK



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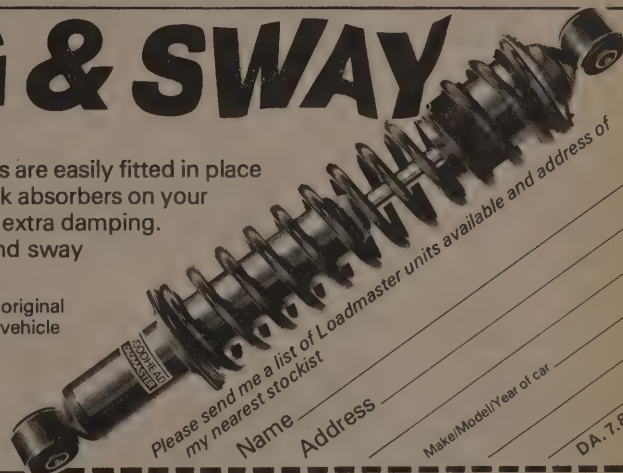


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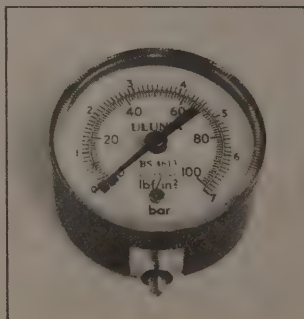
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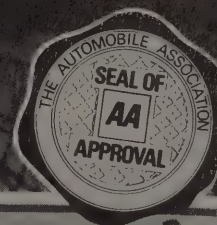
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The meticulous skill of the Spode heraldic artists can be seen in the beautiful coat of arms featured in the centre of the 10 1/4" plate and on the 3 1/2" high mug. The edge of the plate and mug are finished off in a broad band of 22 carat gold. Inside this gold edge a yellow border depicts the colour by which the AA is known today, together with the well known AA stars. Around the border of the plate are the AA Heraldic badges assigned for use in the United Kingdom, each charged with the Arms.

OFFICIAL BACKSTAMP

The mug's backstamp features the modern AA symbol and shows the distinctive mark of Spode which is a guarantee of quality and issue. The backstamp on the plate quotes the edition limit of 3,000 and each plate is individually numbered.

THE NAME, THE EDITION, THE PRICE

The name of Spode, superb quality and a limit of only 3,000 make these fine plates very attractive indeed at £50 each. Although the mugs are not limited the craftsmanship and quality are just the same and the price even better at £15 each.

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DRIVE

AA

the motoring magazine
that's so different

September/October 1980 60p

Latest £-per-mile
DRIVE Index
page 12



great British

We have a lift-off!

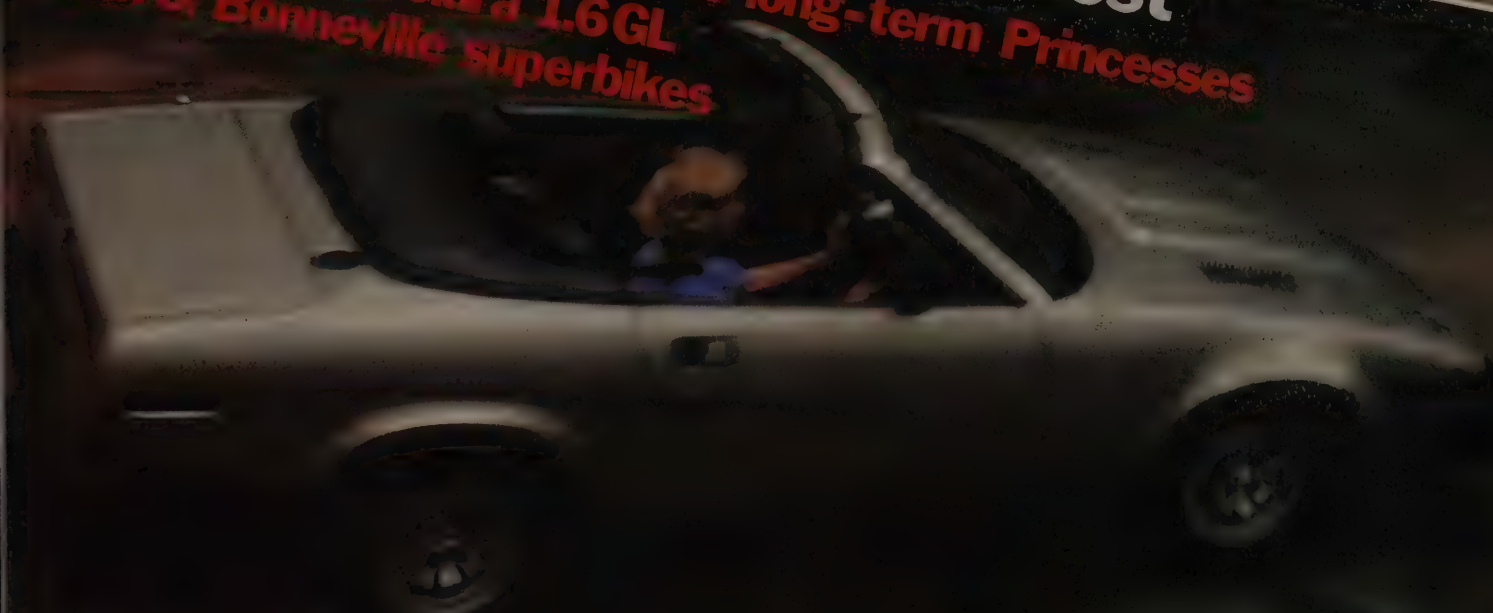
Reliant Scimitar GTC

Triumph TR7 Drophead on test

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asketh & Bonneville superbikes



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"The finest engineering expertise went into your braking system. Why forget it now?"

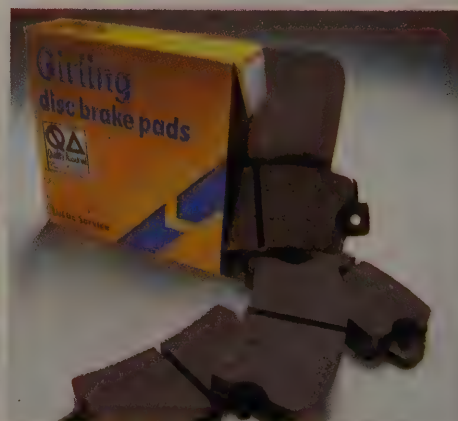


Your safety and that of your car depend upon a carefully designed and engineered braking system. And so your disc brakes need just the *right* pads to provide the safe, balanced performance you have come to rely on.

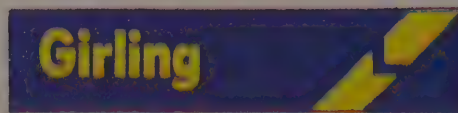
Girling brake system components are among the most widely fitted by the world's vehicle manufacturers. We know about brake systems. And we know about disc brake pads. They must perform efficiently and consistently whatever the car's speed, even if they get hot with extensive braking. They must also offer a reasonable wear rate, relative to performance.

They must give you consistent performance and safer braking—in short, real confidence.

Be safe *and* sure, fit...



**Girling Disc Brake Pads—
more than just a part!**



September-October 1980 Number 65
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THIS IS A British Issue of DRIVE,
 with a quartet of British-brand cars
 tests and even a brace of John
 Bull superbikes.

But not for a moment are we
 merely beating a jingoistic drum.
 We make that very clear on page
 52, where we invite respected
 industrial writer Graham Turner
 to take a long, hard look at the
 prospects for UK car makers.

Turner has no particular com-
 mitment to British car manufac-
 turers; nor, for that matter, to
 DRIVE. And writing about Ford,
 BL, Vauxhall, Chrysler — well, he
 pulls very few punches. All the
 same, it's difficult not to sym-
 pathise with Britain's car men.

The simple fact is that this
 decade is the most crucial in the
 history of car-making — in Bri-
 tain, certainly, but also every-
 where else in the West. Here at
 home, the demise of car manufac-
 turing as we know it could mean
 the loss of at least 800,000 jobs.
 And that is a prospect that no one
 — and definitely not the AA, with
 its 75 years' involvement with all
 aspects of motoring in the UK, and
 its long-standing policy of buying
 British for its huge vehicle fleet —
 can view with equanimity

Invisible exports

UK CAR EXPORTS may be over-
 shadowed by those of Japan,
 Germany and France, but there
 are still some foreign markets
 where British models thrive.

Sadly, they are, with one
 exception; vehicles that are no
 longer made in this country —
 such as the Morris Oxford Series
 3, best-seller of the 1950s. Its
 jelly-mould design may be 24
 years old, but thousands are still
 being built in India as the Hindus-
 tan Ambassador Mk3. And,
 under its bonnet, there is still the
 original 1489cc power unit that's
 mourned by many in Gt Britain.

Hindustan Motors bought the
 body dies and tooling from what
 was then BMC, and began pro-
 duction in Calcutta. For good
 measure, the company also pro-
 duces a car that looks suspi-
 ciously like the Mini Moke, com-
 plete with canvas roof. There are
 two essential differences: it's big-
 ger than the original favoured by
 1960s trendsetters, and it's pow-
 ered by a 1489cc diesel.

Triumph Herald fans will be
 happy to learn that the apple of
 their eye is also alive and running
 — again in India. It's now known
 as the Standard Gazel station
 wagon, and is made in Madras —
 where, incidentally, the old Stan-
 dard Atlas van is also produced.
 Meanwhile, in Bombay, the
 Vauxhall Viva looks set to enjoy
 a new lease of life, courtesy of the
 Premier Motor Company.

The Hillman Hunter, too, not
 only lives on — it has managed to
 become a best-seller as the Paykan
 in Iran, where it has been
 assembled since the late 1960s. Of
 course, as Iran has a near-total
 ban on imports, it is also the only
 'new' car on sale there... The
 body is manufactured locally,
 while Talbot's Stoke-on-Trent
 factory continues to produce the
 power train and suspension in a
 deal worth up to £150million a
 year. Annual production is cur-
 rently running at around 100,000
 models. Those sort of sales, if
 reproduced in Britain, would
 make the Hunter the third-most-



popular car, after only the Ford
 Cortina and Escort!

And, with the fate of MG
 now sealed, it's comforting to
 hear that two of its finest
 offspring, the MG TF roadster
 and TD Mk2, continue to roll out
 of Sao Paulo, Brazil. These,
 however, are definitely not for the
 purists, being glass-fibre copies
 powered by Chevrolet's 1.4litre
 or Volkswagen's 1.3 and 1.5litre
 engines.

Remember the Innocenti, star
 of the Geneva Motor Show in the
 mid-1970s? It was the brainchild
 of BL Italy, and, until the recent
 development of BL Cars' Metro,
 was widely tipped as the Mini's
 successor. Today, the Innocenti
 is still in small-scale production
 by De Tomaso of Milan, with
 Austin-Morris engines.

Another oldie on its way back
 — in Britain, this time — is the
 faithful Morris Minor 1000. Plans
 for the Morris Minor Centre of
 Bath to produce the saloon,
 estate, convertible and pick-up
 models are well-advanced. At
 today's prices, they are likely to
 sell for £5000. The philosophy of
 Charles Ware, the man behind the
 enterprise, would seem to be that,
 if the VW Beetle can thrive in S
 America, then Britain's 'people's
 car' can also make a comeback.

The Fox (pictured above), on
 the other hand, is one car that has
 never been made in Britain, and is
 unlikely ever to be sold here. Yet
 this year it is expected to earn
 £1million for Reliant. A new util-
 ity vehicle, it's the result of a

12-year relationship between the
 Tamworth, Staffordshire, firm
 and the Greek company, Bebea.
 Currently built in Athens, the
 Fox makes full use of Reliant's
 experience with glass fibre, and
 takes its running gear and trim
 from the Reliant Kitten.

Turkish delight

THE LATEST Reliant car takes its
 bow at the Motor Show, this
 October. Code-named the
 FW-11, it's a stylish five-door
 hatchback, with, of course, a
 glass-fibre body. But, if its hand-
 some looks prompt you to order a
 test drive, forget it! It's destined
 exclusively for Turkey, where it
 is planned to go into production
 late next year.

So why go to the expense of
 showing it at the NEC? Says
 Reliant's Alfred Woolf: 'The



FW-11 is a design-and-
 development job for the Otosan
 company of Istanbul; by exhibit-
 ing our pre-production prototype,
 we're hoping that we can win
 other such "concept" contracts
 from other countries.'

Why can't Reliant produce the
 FW-11 in its own factory? Woolf
 explains: 'To go into volume pro-
 duction, we would need an
 investment of something like
 £325million. We're a small com-
 pany, and there's no way we can
 raise a sum of that size...'

Fortunately, Reliant's export
 future looks sweet: its knowhow
 has made Otosan's current
 Anadol car range the delight of
 the Turks.

Seeing red

OUR FORD FIESTA crash story
 (July-August) shows just how
 expensive a gentle rear-end shunt
 can be. So we were doubly
 interested in a bright idea from
 Hella that is claimed to cut such
 incidents by up to 50% — an extra



'Don't know who he is,
 but he comes here every
 year and begs
 forgiveness from his
 old Hillman Hunter.'

pair of eye-level brake lamps.

Hella's scientists experimented with more than 4000 Washington, US, taxi cabs to prove their point. Half were fitted with additional brake lamps high up in the rear window; the other half were left unmodified; and the accident records of the two groups were monitored for a total of 60million hazardous miles.

The US government was as shocked as Hella — but not as pleased — when the results showed that taxis displaying the extra brake lamps were involved in fewer than half the number of rear-end accidents that dented un-

Hella'd taxis. In fact, officials could not believe the statistics, and organised a second test using cabs right across the US. The results were identical.

Here's how Hella's lamps can avoid nose-to-tail crashes. When the lead car in a queue of traffic brakes, its brake lamps are seen only by the car driver immediately behind. The chain of delayed reactions leads to successive vehicles in the queue having to brake progressively harder — until, almost inevitably, an accident occurs.

When the lead car carries extra brake lamps in its rear window, its braking can be signalled to drivers

in cars up to four or five vehicles behind, so giving valuable split-seconds' warning.

Hella's invention is so successful that European governments have changed their lighting laws to accommodate eye-level brake lamps. Curiously, Hella has discovered that, in the UK, the £24 lamps are already legal.

Latest instalments

YOU CAN NOW pay off your road tax at a fiver a month... by buying special stamps at post offices. But if the government gets its way, you may soon have to display a current tax disc even if your car is laid up. The move is

designed to reduce evasion running at an estimated £75 million a year according to the DoT.

Special offer

LIMITED EDITIONS are all too often a marketing ploy to sell the unsellable — but not the new Porsche 924 Carrera GT (right).

It's destined to succeed the classic 1973 911 Carrera as the ultimate road-going/competition car, and Porsche promises the only 75 will be imported into the UK. The 2litre, turbocharged 924 has a top speed in excess of 150mph and its standard engine produces 210bhp. If that's not enough, there are tuned versions



ON-THE-ROAD NEW-CAR PRICE-GUIDE

What's it called? How much does it cost? DRIVE's superguide to the latest prices of new cars currently available in Britain tells you all you need to know, immediately, whether you're buying or just browsing. And our prices aren't just what the manufacturer says: we tell you the size of the cheque you can expect to write to put your new Mini or Rolls on the road, seatbelts, numberplates, road-fund licence and delivery paid. Want to know more? Well, if the car of your choice has a DRIVE/AA road-test report number beside it, you can have a copy of the best car criticism in the business. AA members can apply to their regional AA office — address in *Handbook*. Otherwise, write to DRIVE New-car Price-guide, Fanum House, Basingstoke, Hants, RG21 2EA. But we must now ask readers who request more than one to pay 10p for each report.

(a) denotes road test on automatic model only; delivery charges where applicable estimated on an average 200 miles

Model	Manual	Auto	DRIVE/AA Road Test
-------	--------	------	--------------------

AC (14 dealers)			
3000ME	13452	—	

ALFA ROMEO (142 dealers)			
Alfasud Super			
1.3 (1350)	4160	—	D5/78
Super 1.5	4360	—	
Ti 1.5	4580	—	D6/79
Sprint Veloce	5460	—	
Giulietta 1.6	5160	—	D25/79
1.8	5460	—	
2.0	5560	—	
Alfetta 2000L	6060	—	
GTV2000	6860	—	
GTV2000SE	8058	—	

ASTON MARTIN (27 dealers)			
V8	34587	34587	
V8 Vantage	37048	—	
V8 Volante	42588	42588	
Lagonda	—	50022	

AUDI (351 dealers)			
80LS	5546	5900	
GLS	6045	6396	D18/79
GLE	7253	—	
100 Avant L	6344	—	
L5S	6848	7406	
GL 5S	7602	8159	
L5D	7662	—	
Avant GL 5S	7789	8347	R1176
GL 5E	8006	8565	D8/78
CD 5E	—	10019	
Avant CD 5E	—	10486	
200 5T	13108	13108	

AUSTIN-MORRIS (1706 dealers)			
Mini 850 City	2637	—	RTR340
850 Super	3106	—	
1000 Super	3184	3654	D3/78
Clubman (1098cc)	3506	—	RTR410
Clubman (998cc)	—	3978	
estate (1098cc)	3905	—	
estate (998cc)	—	4275	
1275GT	3923	—	
Allegro 1100	3534	—	
Mk 3 1.1 4dr	3671	—	
1300 2dr	3666	4136	
4dr	3803	4273	
1300L 2dr	3957	4427	
4dr	4084	4564	
1300HL 4dr	4553	5023	
1300 estate	4062	4532	
1300L estate	4353	4823	8014A
1500L 4dr	4275	—	

1500L estate	4535	—	D9/79
1500HL 4dr	4735	—	
1750L 4dr	—	4738	
1750L estate	—	4997	
1750HL 4dr	4910	5197	R1182

Vanden Plas			
1500 4dr	5681	—	
1.7	—	6144	
Ital 1.3L	3889	—	
1.3HL	4133	4558	
1.3HLS	4550	4975	
1.3L estate	4354	—	
1.7L	4115	—	
1.7HL	4359	4784	
1.7HLS	4775	5200	
1.7L estate	4581	—	
1.7HL estate	4825	5250	
1.7HLS estate	5201	5626	
Maxi 1750	4322	4823	
1750HL	4567	5068	
1750HLS	4690	—	
Princess 1700L	4796	5326	
1700HL	5194	5724	
1700HLS	5437	6167	
2000HL	5503	6033	
2000HLS	5844	6474	
2200HLS	6395	6925	D11/78

BENTLEY (77 dealers)			
T2 Series	—	42204	
Corniche	—	62722	
Convertible	—	66410	

BMW (144 dealers)			
316	5622	—	R1149
320	7057	7517	
323i	8192	8652	D12/79
518	7252	—	
520	8417	9127	D11/78
525	9592	10127	
528i	10862	11377	
728i	12702	13217	
732i	14592	15107	
735i	16442	16902	
735i Special	17396	17756	
635CSi	19217	19217	

BRISTOL (0 dealers)			
412 S2 convertible-saloon	—	32827	
412/S3	—	—	
Beaufighter	—	38106	
603 S2	—	39328	

BUICK (5 dealers)			
Century	—	9755	

CADILLAC (5 dealers)			
Seville Elegante	—	21946	
Elegante (lhd)	—	19573	
Seville	—	18539	
Seville (lhd)	—	16168	
Fleetwood	—	—	
Brougham	—	—	
d'Elegance	—	16046	

CATERHAM CARS (0 dealers)			
Super Seven TC	6081	—	
1600 Sprint	5587	—	
1600GT	5217	—	

CHEVROLET (5 dealers)			
Caprice Classic	—	13081	
Classic (lhd)	—	10857	
Classic estate	—	13205	
Classic estate (lhd)	—	10982	
Monte Carlo coupé	—	10055	
Corvette (lhd)	—	12405	

CITROËN (271 dealers)			
2CV6	2477	—	R1118
Dyane	2721	—	D1/79
Visa Club	3408	—	
Super	3737	—	
GS	3775	—	
estate	4031	—	
GS 1220 Club	3804	—	RTR384
Pallas	4220	4463	
estate	4059	—	D8/79

GSA (1299cc)			
Club	4393	4554	
Pallas	4746	4806	
estate	4515	4582	
CX Reflex	6350	—	
Athena	7046	—	
2400 Pallas	7695	7910	
2500 Diesel	—	—	
Super	7665	—	
Diesel Pallas	8320	—	
2400 Pallas	—	—	
Injection	—	8810	
GTI	8785	—	
Prestige	—	—	
Injection	—	11765	
2400 Super	—	—	
estate	7473	7838	
5-speed	7615	—	
2500 Diesel	—	—	
Super estate	7893	—	
5-speed	8035	—	
Familiale 2400	—	—	
Super	7609	7974	
5-speed	7757	—	
2500 Diesel	8025	—	
5-speed	8167	—	

COLT (290 dealers)			
GLX 3dr	—	—	
hatchback	4059	—	
GLX 5dr	—	—	
hatchback	4309	4684	
Lancer 1400GLX	4459	4804	
1600GSR	4889	—	
Celeste 1600ST	4559	—	
GS	4719	—	D5/78
2000GT	5059	—	
Sigma 1600GL	4719	5064	
2000GLX	5359	5704	RTR432
estate	5959	—	
Sapporo 2000	6659	7004	

DAIHATSU (88 dealers)			
F20 soft top	5315	—	
hard top	5481	—	
F50 soft top	—	—	
(diesel)	5768	—	
hard top	—	—	
(diesel)	5932	—	
Charade XG	3096	—	
XTE	3466	—	

DATSUN (400 dealers)			
New Cherry 1.0	—	—	R1179
3dr hatchback	2909	—	
1.0GL 3dr	3189	—	R1179
1.0GL 4dr	—	—	
saloon	3253	—	R1179
1.2GL 5dr	—	—	
hatchback	3388	—	
1.0GL 5dr	—	—	
estate	3488	—	R1179
1.2GL 3dr	—	—	
coupe	3663	—	R1179
Sunny 1.2GL	—	—	
2dr	3441	—	
1.2GL 4dr	3542	—	
1.4GL 2dr	—	3913	
1.4 GL 4dr	—	4004	
1.2GL estate	3790	—	
1.4GL fastback	—	—	
estate	4081	4389	
1.4GL hatchback	—	—	
coupe	3890	—	
Violet 140J Mk 3	3835	—	
160J Mk 3	3918	4216	
160J SSS	—	—	
hatchback	—	—	
coupe	4403	—	
1.4GL	3939	—	
1.8GL	4029	4327	
1.8GL SSS	—	—	
hatchback	—	—	
coupe	4513	—	
Bluebird 1.6GL	4135	—	
1.8GL	4242	4540	
1.8GL estate	4442	—	
1.8GL coupe	4742	5040	
Laurel 2litre	5640	5980	
2.4litre	6340	6680	
Skyline 240K	—	—	
coupe	6905	7245	
2.4litre	7292	7632	
280C 2.8litre	7840	8180	
2.8litre estate	7840	8180	
280ZX 2-seater	8772	9112	
2+2	9726	10066	

DE TOMASO (3 dealers)			
Pantera GTS	23062	—	
Longchamp	—	27068	
Deauville	—	30213	

FERRARI (17 dealers)			
Dino 308GT4	17700	—	
308GTB	20286	—	
308GTS	21166	—	
400GT	33916	33916	
512BB	33364	—	

FIAT (400 dealers)			
126	2283	—	
de Ville	2471	—	D1/79
127 900L 2dr	3031	—	R1137
1050L 3dr	3231	—	
1050CL 3dr	3444	—	RTR426
Sport	3902	—	809
128 1300CL	3281	—	RTR402



with 330bhp on tap ... and Porsche boasts that the 924 Carrera GT will be the most economical model in its entire range.

The car makes its British debut at the Motor Show in October and, in its full UK specification, is anticipated to cost £19,000.

Blowing hot

THE SUPERCHARGER looks set to make a comeback. Once a favourite method of increasing engine power, the supercharger fell out of favour when it was realised that too many valuable bhp's were wasted in driving its belt or chain. Now, Fiat is considering fitting superchargers to several models to raise their engine power by up to 20% and cut fuel consumption by around 10%.

Fiat says that new aluminium die-casting techniques now make volume production of its lightweight supercharger worthwhile.

Its subsidiary, Abarth, has achieved remarkable results in

preliminary tests. By fitting the 351b Fiat supercharger to a 1.3litre engine, performance similar to that of a normally aspirated 2litre engine can be achieved with a significant fuel saving. At constant speeds between 40mph and 110mph, the claimed fuel saving is 10%, but, in gentle driving, the 1.3litre car can apparently economise by up to 23% over the bigger rival. A further bonus is the supercharger's improvement of engine torque: an increase of 39% in torque is claimed for the 2litre prototypes.

Fiat's supercharger is driven by a wide, toothed belt from a crankshaft pulley, so making its

CL estate	3802	—	
X1/9 1500	5715	—	D14/79
Mirafiori 1300CL	4007	—	
4dr	4136	—	
1600CL 4dr	4531	4858	
estate	4782	5085	RTR412
Supermirafiori			
1600TC	5056	5383	D10/78(A)
estate	5240	5567	
Mirafiori Sport	5630	—	
132 2litre	5924	6285	D12/78
Bellini	6145	6484	
Strada 65L			
1300 3dr	3540	—	
65L 1300 5dr	3658	—	
65CL 1300 3dr	3825	—	
65CL 1300 5dr	3961	—	
75CL 1500 3dr	4280	4599	
75CL 1500 5dr	4380	4689	D17/79

FORD (1241 dealers)			
Fiesta 950	3214	—	RTR417
1100	3389	—	
950L (45bhp)	3580	—	D16/79
1100L	3741	—	
1100GL	4000	—	
1300GL	4210	—	
1100S	4104	—	
1300S	4314	—	RI181
1100 Ghia	4388	—	RI170
1300 Ghia	4604	—	
Escort 1100			
Popular 2dr	3328	—	
1100 Popular			
Plus	3432	—	
1100 Popular			
Plus 4dr	3560	—	
1300 Popular			
2dr	3487	—	
1300 Popular			
Plus	3564	—	D4/78
1300 Popular			
Plus 4dr	3699	—	
1100L	3690	—	
1100L 4dr	3829	—	
1300L	3933	4319	
1300L 4dr	3943	4329	
1600L	4157	4543	
1300GL	4061	4467	
1300GL 4dr	4221	4607	
1600GL	4445	4831	
1300 Sport	4382	—	
1600 Sport	4514	—	
1300 Ghia	4610	—	
1300 Ghia 4dr	4750	—	
1600 Ghia	4872	5258	D4/79
1100 estate	4855	—	
1300 estate	3845	—	
1300L estate	4210	4596	
1300GL estate	4577	4963	
RS2000	5141	—	
Cortina 1300	3897	—	
1300 4dr	4032	—	
1600	4256	4642	
1300L	4226	—	RTR372
1300L 4dr	4369	—	
1600L	4591	4976	D22/79
1600GL	5089	5475	
2000GL	5345	5731	
2300GL	6009	6395	RI183
600 Ghia	5809	6195	
2000 Ghia	5973	6359	
2300 Ghia	6637	7023	
1600 estate	4676	5062	
1600L estate	5135	5521	
1600GL estate	5553	5939	

2000GL estate	5818	6204	RTR413
2300GL estate	6479	6865	
1600 Ghia			
estate	6266	6652	
2000 Ghia			
estate	6429	6815	
2300 Ghia			
estate	7090	7476	
Capri 1300L	4306	—	RTR373
1600L	4528	4914	
1600GL	4891	5277	RTR342
2000GL	5186	5572	
1600S	5559	—	
2000S	5791	—	RI166
3000S	6226	—	
2000 Ghia	6421	6807	
3000 Ghia	—	7266	RI114
Granada 2000L	6155	6625	RI128
2300L	6802	7272	
2300GL	8169	8639	
2800GL	—	8784	
2800GLS	9445	9915	
2300 Ghia	9449	9919	
2800 Ghia	—	10077	
2800L Ghia	10523	10993	802(A)
2000L estate	6729	7199	
2300L estate	7376	7849	
2300GL estate	8343	8813	
2800GL estate	—	8951	D8/78(A)
2800L GL			
estate	9599	10069	
2800 Ghia			
estate	—	10311	D8/78
2800L Ghia			
estate	10762	11232	
2100 diesel	8326	8796	

FORD USA (14 dealers)			
Mercury Monarch			
Ghia (rhd)	—	9573	
Mustang Ghia			
Turbo (lhd)	7894	—	

HONDA (236 dealers)			
Civic 1300 3dr	3209	3439	
1300 5dr	3409	3639	RI155
Accord 3dr	4409	4679	RTR420
4dr	4599	4869	D4/79
Executive DL	—	5669	
Prelude	5169	5439	806

JAGUAR-DAIMLER (288 dealers)			
Jaguar XJ6 3.4	14159	14159	RTR380
XJ6 4.2	15969	15969	
XJ12 5.3	—	18327	RTR305
XJS	—	19358	RTR394
Daimler			
Sovereign 4.2	16993	16993	
Double Six	—	19316	
Vanden Plas 4.2	—	22228	
Double-Six			
Vanden Plas	—	25166	

JEEP (88 dealers)			
CJ7 soft top	5648	—	
hard top	6063	—	
Renegade			
soft top	7192	—	
hard top	7545	—	
CJ7 Golden Eagle	7192	—	
hard top	7545	—	
Cherokee 4dr			
(6-cyl)	10524	10744	
S (6-cyl)	—	11804	
SV8	—	11924	D2/79
Chief V8	—	12144	

Golden Eagle — 12874			
LADA (200 dealers)			
1200	2604	—	RI175
estate	2843	—	
1300	2822	—	D4/79
1500 estate	3040	—	
1600	3243	—	RI173
1600ES	3643	—	RI173
Niva	4714	—	

LANCIA (120 dealers)			
Delta	5074	—	
1600	5173	—	
2000	4848	5921	RI171M
2000ES	5848	6301	
Beta coupé	5140	—	
1600	5855	—	
2000	6331	—	
Beta Spyder			
2000	6878	—	
Beta HPE 1600	6803	—	
2000	7135	—	
Gamma Berlina	8039	—	
Gran Turismo	10038	—	

LAND-ROVER (342 dealers)			
Land-Rover	5836	—	RTR333
diesel	6896	—	
lwb	6796	—	
lwb (diesel)	7658	—	
lwb 6-cylinder	6892	—	

LOTUS (32 dealers)			
Elite Series 22	16388	16648	
Éclat	18068	18348	
Esprit	15197	—	

MASERATI (7 dealers)			
Merak SS	23267	—	
Kyalami 4.2	30289	—	
Kyalami 4.9	34288	33279	
Khamlin	34288	—	

MAZDA (227 dealers)			
1300 hatchback	3695	—	D4/78
1300 hatchback			
5dr	3895	—	RTR424
1.4 Special			
hatchback	4095	—	
1400 hatch 5dr	—	4195	
1400 estate	4095	—	D10/79
Montrose			
1600GL	4545	—	
GLS	4845	—	
2000GLS	5145	5481	D23/79
GLS coupé	5845	5995	
2000 estate	5795	6195	
TX-7	5745	—	
RWR coupé	7395	—	

MERCEDES-BENZ (98 dealers)			
200	8528	—	
200D	8859	—	
230	—	9594	
230C	—	11884	
240D	9599	9711	
240D lwb	14228	14668	
240TD estate	10958	10958	
250	—	11128	
250T	—	12273	
250 lwb	—	14228	
300D	—	11309	
280E	—	12909	D11/79
280SE	—	14592	
280CE	—	14674	

280TE estate	—	14429	
280SL	15734	16330	
280SLC	—	17734	
350SE	—	17025	
380SL	—	18434	
380SLC	—	21644	
450SE	—	18273	
450SEL	—	19295	
450SEL 6.9	—	30610	
500SL	—	20434	

MORGAN (18 dealers)			
4/4 1600	5779	—	
4-str	6370	—	
Plus 8	8301	—	

MG (1746 dealers)			
MG Midget	3974	—	
MGB Sports	5792	—	
MGB GT	6223	—	D13/79

OPEL (237 dealers)			
Kadett 1.2L	3686	—	
1.3L	3782	—	
1.2L 4dr	3812	—	
1.3L 4dr	3934	—	
1.2LS hatchback	3763	—	
1.3L estate	4056	—	
1.2L estate	3936	—	
LS saloon	4018	—	
LS 4dr saloon	4172	—	
LS hatchback	4125	—	
LS hatchback			
5dr	4277	—	
LS estate	4346	—	
LS estate 5dr	4464	—	
GL saloon	4665	—	
GL hatchback	4772	—	
GL estate	4874	—	
Berlina 4dr	5135	—	
Berlina 5dr	5242	—	
SR	5048	—	
Ascona SR	5412	—	
L 4dr	4378	—	
GL 4dr	4649	5115	
GL 2.0 4dr	4913	5379	
Berlina 2.0	5657	6123	

MANIA			
Berlinetta			
hatchback	6284	6750	
coupe	6142	6608	
Rekord 4dr	5853	6349	
Berlina	6392	6868	
Berlina HL	7363	7849	
DL diesel	7206	7702	
DL estate	6815	7311	
DL estate			
diesel	7771	8267	
Senator 2.8S	9378	9967	
CD	12298	—	
Monza coupé	12752	13341	

PANTHER (30 Lima and 4 de Ville dealers)			
J72 4.2	24157	24580	
de Ville 5.3			
saloon	—	58412	
convertible	—	72377	
Lima	9160	9621	
Lima Turbo	12157	—	

PEUGEOT (269 dealers)			
104ZL	3323	—	
104ZR	3654	—	
104ZR Custom	3852	—	
104ZS	4253	—	RI146
104GL	3463	—	RTR406

presence felt throughout the range of engine revs; yet Fiat boasts that the supercharger absorbs only 5-bhp at 4500rpm.

The best news for today's motorist is that the cost of a Fiat supercharger will be around 20% cheaper than a comparable turbocharger — though Fiat is hedging its bets by continuing its research into turbocharging through another of its subsidiaries, Weber.

Fare model

LIKE IT OR NOT, you could be hailing *this* British cab three years from now. For Carbodies' prototype is the first taxi to be designed for world-wide sales. It will also be the replacement for the familiar FX4 London cab, which was originally produced by BMC, subsequently made by Carbodies in the 1960s, and is now 21 years old.

The new taxi uses Land-Rover and Range Rover-style body

panels in non-corrosive aluminium, and the Rover SD1's



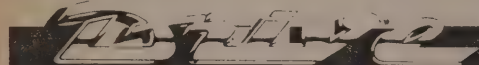
five-speed gearbox and self levelling suspension system.

Says Carbodies' managing director, Grant Lockhart: 'We believe it has a bright future — especially in America, where there's a great need for an economical cab. Our taxi can run on petrol, diesel, or LPG.'

Pull out when parking

A NOVEL device, claimed to defeat almost any car thief,

continued on page



ON-THE-ROAD NEW-CAR PRICE-GUIDE

104GR	3783	—	
104SR	3930	—	RI190
104SR Custom	4252	—	
104S	4382	—	
305GL	4183	—	D9/78
305GRS	4483	—	
305GR	4593	—	D9/78
305SR	5013	—	RI162
305SR Custom	5404	—	
305GRD	5306	—	D19/79
304GL estate	3935	—	RTR386
304SL estate	4232	—	
504GR	5079	5573	RI174M
504GRD	5811	—	RTR425
504 estate	5588	—	
GR estate	6304	6898	RI159
Family estate	6884	7178	
D estate	6321	—	
Family diesel estate	7505	—	
505GR	6382	6877	
SR	6907	7401	
TI	6883	7377	
STI	7604	8099	803
GRD	7197	—	
SRD	7721	—	
604SL	8794	9388	RTR391
TI	10389	10853	RI167
D Turbo	9692	—	

POLSKI FIAT (115 dealers)			
125P	2616	—	RTR379
estate	2972	—	
Polonez	3532	—	

PONTIAC (5 dealers)			
Trans-Am (rhd)	—	12379	

PORSCHE (27 dealers)			
924	9394	9873	D7/78
924 Lux	9873	10251	
924 Turbo	13920	—	
911SC (coupe or targa)	16400	—	
911SC (sport coupe or targa)	17645	—	
928	22018	22018	
928S	25542	25542	
Turbo	28241	28241	

PORTARO (44 dealers)			
Pampas 250D	7083	—	
250DL	7483	—	
250DPU	7601	—	
250DP	7760	—	

RELIANT (184, and 76 Scimitar dealers)			
Robin 850	2910	—	
estate	3190	—	
Super Robin 850	3315	—	D21/79
estate	3585	—	
Kitten DL	3450	—	
DL estate	3710	—	
Scimitar GTE	10494	10494	RTR303
GTC	11830	11830	

RENAULT (463 dealers)			
4TL	3299	—	RI161
4GTL	3501	—	8017
5	3168	—	
5TL	3688	—	D3/78
5GTL 3dr	3871	—	RI143
5dr	4031	—	
5TS	4263	—	RTR370
5 auto 3 dr	—	4375	RI172
5dr	—	4536	
5 Gordini	5504	—	803
12TL	4020	—	RTR385
estate	4476	—	RTR374
14TL	4143	—	RTR414

14GTL	4379	—	
14LS	4413	—	
14TS	4708	—	D6/78
18TL	4357	—	
18TS	4771	—	RI189
18GTL	4969	—	
18 auto	—	5487	
18GTS	5429	—	
18TL	—	—	
estate	4824	—	
18LS	—	—	
estate	5055	—	
18TS	—	—	
estate	5297	5838	
20TL	5658	—	RTR409
20LS	6128	6464	
20TS	6846	7182	D12/78(M)
30TS	8176	8513	RI134(M)
30TX	9649	9985	RI134

ROLLS-ROYCE (77 dealers)			
Silver Shadow II	—	42204	RTR312
Silver Wraith II	—	49691	
Corniche	—	62722	
Convertible	—	66610	
Camargue	—	76364	

ROVER-TRIUMPH (925 dealers)			
Rover 2300	7007	7484	RI186
2600	8187	8449	D8/78
3500	10262	10524	RTR428(M)
V8S	11955	12217	
Range Rover 3.5	13091	—	D2/79
Triumph	—	—	
Dolomite 1300	4299	—	
1500	4618	5072	RTR345
1500HL	5142	5596	RTR345
1850HL	5735	6189	RTR288
Sprint	6969	7136	RTR332
Spitfire	—	—	
soft-top	4627	—	RTR376
hardtop	4800	—	
TR7 drop head	6062	6341	
fixed head	6279	6558	TRT401

SAAB (201 dealers)			
99GL 2dr	5462	—	
99GL 4dr	5947	6457	
99 Turbo 2dr	8127	—	
900GL 3dr	4667	—	
900GLS 3dr	5962	7537	
900GLS 5dr	7182	7827	
900EMS 3dr	8152	—	
900GLE 5dr	9087	9077	
900 Turbo 3dr	10537	—	
900 Turbo 5dr	10937	—	

SKODA (285 dealers)			
S110R coupé	2288	—	
105S	2308	—	
105L	2458	—	D1/79
120L	2507	—	
120LE	2706	—	
120LS	2956	—	RI169
120LSE	3159	—	

SPARTAN (0 dealers)			
Sports 2dr	—	on app-	
2+2	—	lication	

SUBARU (99 dealers)			
GLF	4142	—	
GFT coupé	4640	—	
4wd saloon	5138	—	
DL estate	4341	—	
4wd estate	5387	—	

SUZUKI (24 dealers)			
SC100	2662	—	
QF soft-top	3612	—	
LJ80V 4wd	3812	—	

TALBOT (650 dealers)			
Sunbeam 1.0LS	3421	—	RI164
1.3LS	3688	4102	
1.0GL	3734	—	
1.3GL	4000	4414	
1.6GL	4165	4579	D6/78
1.6GLS	4727	5141	
1.8TI	4828	—	
Lotus	7367	—	
Avenger 1.3LS	3848	4262	
1.6LS	4013	4427	
1.3GL	4455	4869	
1.6GL	4620	5034	
1.3LS estate	4282	4696	
1.6LS estate	4446	4860	
1.3GL estate	4915	5329	
1.6GL estate	5079	5493	
1.6GLS estate	5280	5694	
Horizon LS	—	—	
1118cc	3886	—	
1294cc	4039	—	
GL 1118cc	4408	—	D5/79
1294cc	4561	—	
GLS 1234cc	4970	—	RI177
SX 1442cc	—	5432	
Alpine LS	—	—	
1294cc	4451	—	RI151
1442cc	4654	—	
GL 1442cc	5158	—	RTR381
GLS 1442cc	5965	—	
SX 1592cc	—	6884	
Solara LS 1.3	4231	—	
LS 1.6	4428	—	
GL 1.6	4914	—	
GLS 1.6	5644	—	
1.6SX	—	6532	
2litre	5426	5784	RTR308
Matra Rancho	5874	—	

TOYOTA (236 dealers)			
Starlet GL 3dr	3261	—	D3/79
GL 5dr	3362	—	D3/79
1200GL 3dr	3491	—	
1200GL 5dr	3591	—	RI187
Corolla 1300DX 2dr	3415	3614	
1300DX 4dr	3515	3715	
1300DX 5dr estate	3745	—	
1600DX 3dr liftback	4038	—	
1600SR5 3dr	—	—	
coupe	4384	—	
Carina 1600 DL	4085	4374	D10/78
1600DL	—	—	
estate	4345	—	
Celica 1600ST	—	—	
coupe	4584	—	
2000ST	—	—	
Liftback	4960	—	RTR423
2000XT	—	—	
Liftback	5847	6063	
2000GT	—	—	
Liftback	6165	—	
Cressida	—	—	
2000DL	4741	5016	
estate	5057	5372	
Corona GL	—	—	
Liftback	5435	5635	RI185
Crown 2800	—	—	
Super 4dr saloon	—	5666	

TVR (20 dealers)			
3000M	5162	—	
convertible	5897	—	
Taimar	9151	—	D7/78
Turbo	12162	—	
convertible	12879	—	
Taimar Turbo	13151	—	
Tamsin	12967	—	

VAUXHALL (650 dealers)			
Chevette E 3dr	3391	—	

L 3dr	3702	4091	
GL 3dr	4104	4493	D3/79
E 2dr saloon	3339	—	
E 4dr saloon	3476	—	
L 2 dr saloon	3650	4039	
L 4dr saloon	3767	4176	RTR396
GL 4dr saloon	4188	4577	
E 3dr estate	3821	—	
L 3dr estate	4124	4513	
Astra L 5dr	—	—	
hatchback	4540	—	
GL 5dr	4968	—	
L 5dr estate	4729	—	
Cavalier 1300L	4190	—	
4dr	4327	—	D9/78
1600L 2dr	4414	4880	RTR382
4dr	4551	5017	RI163(a)
1600 LS	4748	—	
1600GL	4997	5463	
2000GL	5291	5727	RI152
2000GLS	5762	6228	
1600GL	—	—	
sports hatch	5339	5805	
1600GLS	—	—	
sports hatch	5840	6306	
2000GLS	—	—	
sports hatch	6104	6570	RI184
Carlton 2000	6271	6767	D12/78
5dr estate	6888	7384	
Royale 2800	10697	10697	D24/79
coupe	11267	11267	

VOLKSWAGEN (351 dealers)			
Polo N900 3dr	3273	—	
L900 3dr	3596	—	RTR408
GLS 1100 3dr	3958	—	RI183
Derby			
S1100 2dr	3459	—	
LS 1100 2dr	3808	—	D3/79
GLS 1300			
2dr	4163	—	RI168
Golf N 1100 3dr	3609	—	RTR411
L 1100 5dr	4076	—	RTR411
LD (diesel)			
1500 5dr	4892	—	RI160
LS 1300 3dr	4263	—	
GLS 1300 5dr	4030	—	
GLS 1480 5dr	—	5099	D6/78
Gti 1600 3dr	5293	—	807
GLI	7010	—	
Jetta 1.3L	4238	—	
GL	4674	—	
1.5LS	4758	5066	
GLS	5135	5440	
1.8GLI	6146	—	
Passat LS 1600	5229	5563	RTR388
GLS 1600 5dr	5656	5992	RI165
LS estate	5828	5982	
GLS estate	6020	6364	
LD estate (diesel)	5942	6276	
Scirocco GLS			
1600 coupé	5889	6274	D7/79
GLI	6838	—	
Storm	7334	—	



LW/MW/FM Stereo car radio/cassette with high power amplifier and remote control; frequency synthesized electronic touch tuning with memory facility giving 6 pre-sets on each waveband, auto-search tuning on unit or by separate remote control, digital frequency readout and quartz lock, FM noise canceller circuit, stereo/mono switch, auto-reverse, locking fast forward and rewind, AMSS search system, Dolby Noise Reduction, normal/metal tape select, individual bass/treble controls, loudness switch, 20 watts per channel power amplifier. But you do need a car to put it in.

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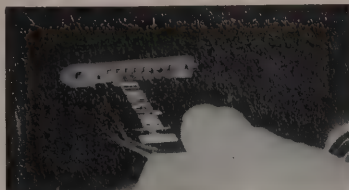


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Keycard — which could upset the estimate that almost half-a-million cars will be stolen this year in the UK.

Keycard comprises a printed-

circuit board and an edge connector, through which numerous combinations of circuits are possible. When the card is removed, it breaks up to three of the car's electrical circuits, immobilising the vehicle. Only a card with the identical edge pattern can restore the circuits and allow the vehicle to start.

Unfare practice

UNLICENSED TAXIMEN are giving genuine cabbies a bad name, it seems. For example, the fare

from Heathrow Airport to the centre of London is around £7.50 in a genuine London cab, but pirates have been known to charge up to £25. One 'pirate' pounced on a visiting Nigerian and obtained £190 for a journey from Heathrow to Birmingham — more than four times the going rate for the journey.

If a London cabbie tried to do the same, he'd risk his licence being revoked. The pirates, however, run no such risk: they have no licences, no identification

numbers that can be reported and they drive ordinary cars which, in the event of a complaint, are almost impossible to distinguish and trace.

Even the way in which the pirates tout for trade is illegal, only licensed taxis are allowed into such places as Heathrow and BR's Euston Station. The law also prohibits unlicensed taxi drivers from picking up casual customers — but they can be prosecuted only if money is seen to change hands, which is rare

JOHNN BULL LIVES... confident that Britain can pick itself up from the floor, shake off the dust, and become once again an industrial force to be reckoned with. All it needs, he says, is for the ee-aye-addio spirit of the Liverpool soccer terraces to rub off on the rest of us, and it's an easy goal.

The present-day John Bull, retired tax inspector Ken Baily of Bournemouth, is familiar to millions as the man in red tails, black trousers, topper and Union-Jack waistcoat who leads the cheers for the England football team at home and abroad.

Not so well-known is that his patriotism extends way beyond Kevin Keegan and co to all things British: products have to be made in Britain before he'll buy them; if it's the product of British invention, he reveres it; if it bears the British flag, he'll back it.

Ken's red-white-and-blue uniform is just the most-obvious aspect of his John Bull reincarnation — the figurehead created in 1712 to be the archetypal Briton. Like the rest of us, Ken Baily wants nothing more than to see Britain succeed; the difference is that Ken has dedicated his life to this ideal.

'My burning ambition was to enter the diplomatic service,' says Ken. 'But when this was denied me, I looked for other ways to promote the country.' Twice he has been invited to open official British trade weeks in W Germany and Sweden and, on the Queen's visit to Australia, earlier this year, he handed out at his own expense 1000 miniature Union Jacks for the crowds to wave. Indeed, every time he follows the England team abroad, he distributes flags to the fans. He also finds time to raise thousands of pounds for charity, be a governor of two schools and six youth clubs, and president of several sports organisations.

He has certainly proved a magnificent ambassador, which is not always easy when national pride is at low ebb. Even donning his John Bull outfit has taken courage, but, as Ken says: 'I'm proud to wear it. I'm proud to stand up and be counted, and proud to show that I'm British.' Of the nation's current predicament, he says: 'The only way the country will recover is for every man-jack of us to back Britain with the fanaticism that the Anfield crowd has for Liverpool's soccer heroes.'

It would be tempting to label 68-year-old Ken as an eccentric, maybe even a misfit. Tempting, simply because it's unfashionable to think along his lines, cherish his values, and have his priorities. As Ken says: 'Anyone can jump on the bandwagon and cheer a winning team. But it takes character and belief to cheer rather than jeer when the chips are down. And that, unhappily, is what so few of us are doing.'

'People pick holes in British goods to the extent that they believe a foreign product must also be a better product, choosing to dismiss evidence to the contrary.'

'But the tide does seem to be turning, thanks largely to BL Cars' chairman Sir

Male chauvinist



Michael Edwardes. When he made it quite clear that a strike would finish BL, common-sense prevailed and the men voted to carry on working. Since then, Vauxhall workers have defied the unions, and even the South Wales miners, you'll recall, decided against coming out in sympathy with the steelmen.

'I believe all this is most significant. It shows that the men are taking very seriously the threat of redundancy and unemployment, and that they want to work. History will identify Sir Michael as the commander who put Britain on course to a better tomorrow.'

Ironically, however much success BL Cars achieves with its new models, beginning with the Mini Metro's unveiling at the Motor Show this October, Sir Michael cannot look forward to having Ken Baily as a customer. 'I've never driven in my life,' says Ken. 'And, at my age, I have no intention of taking it up — though if I had a licence I would have no hesitation in buying BL.'

'I really think that we should follow the example of the French. With few exceptions, their intense national pride just won't allow them to buy anything other than French cars and French goods generally. Not even the

Japanese have been able to break into the market. National pride — it really is the key.'

Pride is something that Ken himself has never been short of, and he showed it first through sport. For example, he has an entry in the *Guinness Book of Records* for running 169,400 miles in 60 years — farther than any man in Britain.

It is scarcely surprising that his love of sport and country should have culminated in his becoming England's No 1 soccer fan on the occasion of the 1966 World Cup. It was the first time that he decked himself out in his John Bull suit, since when he has spent £20,000 from his own pocket on following England's footballers through thick and thin.

It pains him that this has been a black eye for sport, but he nurses the hope that England will win the World Cup in Spain in 1982. 'It would go a long way to restoring national pride,' says Ken. 'But whatever happens, I'm confident that the country is on its way back and will one day lead the world with another industrial revolution.'

'Let's just say that we're losing at half-time but will be the winners when it counts, at the final whistle.'

ROY JOHNSTON

It's hardly surprising that cabbies see their livelihood threatened by operators who, unlike them, do not have to pass exams on their knowledge of London and the suburbs, pass a tough driving test, keep their cabs spotless and have their vehicles checked once a year.

Welcome recession

IT IS NOW a year since the Energy Department's Conservation Month, when Minister David Howell appealed to the country for an across-the-board 5% cut-back in fuel consumption. He wasn't directing his 'Save It' call just to the motorist but to everyone, including the pensioner switching on the occasional electric fire. So, how have we done?

Well, according to Whitehall, the use of oil-based products (including petrol) has fallen by 15%, gas by around 1%, while the amount of electricity units burned has remained more of less the same. Coal consumption, meanwhile, has risen by 8% — good news, given Britain's healthy reserves.

The Energy men are cock-a-hoop, even though these statistics compare the first six months of 1980 (which saw industrial production plummet by 8%) to the same period of the previous year (which suffered the hardest winter in memory). The department insists, however, that taking the general recession and the difference in the weather into account, Britain still achieved a meritorious 7½% reduction in overall oil consumption.

But how did motorists do? Well the DRIVE Index, which monitors the expenditure of 12,000 car owners, shows that fuel consumption dropped by 5% in the year between May 1979 and April 1980, compared to the previous 12 months — just what Mr Howell ordered.

Rare breed

WHAT PRICE THE joys of wind-in-your-hair driving? Well, Lynx Replica Sales, of Northiam, E Sussex, charges you more than £9000 to chop off your XJS's roof and turn the limo into an elegant drophead Spyder (below). Total bill: £30,000.

The conversion has been developed during the past two years, and involves a considerable amount of internal restyling of the rear wings. The fully lined

mohair hood is operated by two electric rams concealed in the sides of the car, so the driver never has to leave his seat when the weather changes.

Colour prejudice

HENRY FORD wouldn't have sold too many of his 'black, black or black' cars in Thailand, as a Merseyside rustproofing company can explain. Cadulac Chemicals, of Haydock, has opened a Bangkok outlet — but only after agreeing to change the colour of its products.

Says Michael Garrity, who heads the sales operation: 'This particular product is normally black, but we were told that this was the one colour Bangkok motorists wouldn't have at any price, because of its association with death and evil spirits. They settled for brown.'

Mini potential

AUSTIN-MORRIS is building some hush-hush Minis at its Longbridge plant. The hope is that a new sound-proofing kit will give the 21-year-old Mini a new lease of life to keep it selling alongside the Mini Metro.

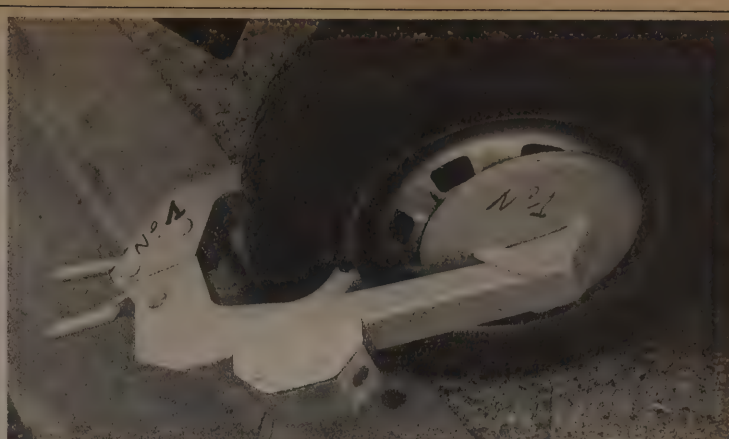
BL Cars' marketing men see a rosy future for the Mini, which sold 83,000 in 1979. Research has shown the car to be more of a 'personal transport' vehicle than the family-car Metro will be. With Mini production now totalling 4.7million, Austin-Morris is confident that 5million sales can be achieved.

Soundproofing starts in the roof, with a new, perforated headlining and a felt pad bonded to the ceiling. Both sides of the engine compartment are insulated and bituminous chipfoam lines the footwells.

Life sentence reduction

IT HAD to happen: a car rustproofing firm offering a 'no-nonsense', lifetime guarantee against corrosion from the inside out. The Bodyshield company has just unveiled its 'for life' package — and, for good measure, is inviting owners with existing warranties to take advantage of the new deal.

According to the AA's chief engineer, Marcus Jacobson, the average life expectancy of a car is 7-11 years, with specialised rustproofing adding another 2-3 years. Which would suggest that Bodyshield's back-up fund will be busy from 1989 on. Or will it? For if a vehicle changes hands, the



London motorists quaking in their shoes at the threat of the Denver Shoe might like to see the dreaded thing in question: our man in St Tropez snapped this French version holding the car of an unsuspecting German visitor in its vice-like grip. The unfortunate was faced with a demand for 250 Francs (about £28) before the gendarmes would return to unlock it. And, *bien sûr*, the French have already coined a name for this new attempt to deter fly-parkers on this oh-so-crowded strip of the Cote d'Azur: the uncompromising monster is nicknamed *le crabe* (the crab). One can only hope the gendarmes put a warning sticker on the windscreen, too . . .

guarantee is valid for only six years . . .

Kindest cut?

CROSSING THE CHANNEL for a late break? Then don't be lulled into thinking that ferry company fares will be much the same. In fact, after all the headlines about the cut-price war that's been waged on the Dover Straits this year, the differences are still considerable.

Taking a family car such as the Ford Cortina Mk4 and a party of two adults and two children aged between 4 and 14, the return trip could cost you as much as £133.80 or as little as £84 after the end of August.

The cheapest of such deals is offered by this year's newcomer to the Channel: Dunkerque-Ramsgate Ferries. Prices are not so attractive, however, to owners of Minis and other baby models, because the company's one-size tariff favours bigger cars.

Seal of Approval

The Finlandia Sunroof, sold by Enviorgarde Autocare, and the Paddy Hopkirk 1gal and 2gal petrol cans, now have the AA's Seal of Approval; Approval has lapsed on the Paddy Hopkirk 1kg and 2kg dry powder fire extinguishers, and Manco footpumps.

Broken toys

TOYOTA IS RECALLING about 2000 cars built between December 1979 and mid-February 1980 because of a fault in the alternator pulley, which has, in some cases, developed small cracks and fractures. Models affected include the Cressida, Celica, and long-wheelbase Hiace vans.

Rivetting information

MERCEDES-BENZ has discovered that rivets on some of its Britax seatbelt attachment brackets have been malformed during

manufacture, and can break under stress. Cars affected are those delivered to the UK between mid-1976 and early 1980; owners are being notified by Mercedes-Benz, and the buckles are exchanged without charge.

Roads information

GT BRITAIN

Numbers in parentheses refer to maps in the 1980-81 AA Member's Handbook.

Motorways open

M4, junctions 29-32, 7.5 miles (16).

Major roads open

Brecon Eastern bypass A470, 2 miles (15); Britannia Bridge A5 (Menai Strait), 1 mile (22); Derby: Nottingham Road diversion A52, 2 miles (24); Oldham: Southern Internal bypass A627, 1 mile (33).

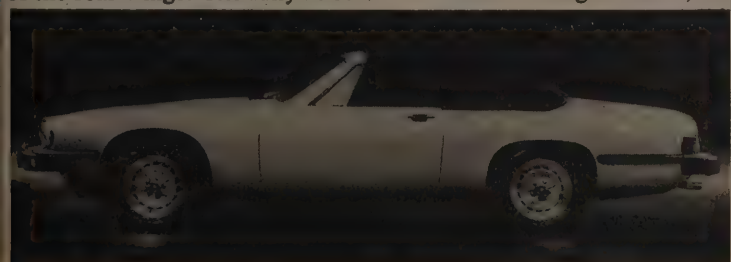
EUROPE

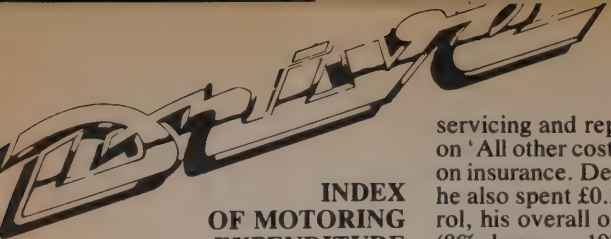
Austria Final 13km of the Salzburg Spittal Autobahn A10 is now open to traffic between Rennweg and Gmünd; toll charge unchanged at S200. Further 4.4km of the Inn Valley Autobahn A12 open between Innsbruck and Telfs.

France Motorway toll charges increased by about 8.5%. The 6km-long Autoroute A63 toll motorway bypass, Bayonne, open.

Spain Motorway toll charges increased by 15-25%. Autopista A68, Bilbao-Logroño, extended by 36km from Altube to Zambrana, near Miranda de Ebro; toll charge is P130 per car.

Switzerland St Gotthard Tunnel, the world's longest road tunnel (16.3km) due to open on 5 September 1980, running under the St Gotthard Pass from Göschenen, on the northern side of the Alps, to Airolo in the Ticino; toll free. Toll-free Motorway N2, Olten-Lucerne, extended by 22.2km from Verzweigung Wiggertal (junction of N1/N2, near Rothrist/Olten) to Sursee.





Cash and carry

INDEX OF MOTORING EXPENDITURE

MAY 1979-APRIL 1980

IT'S GOOD NEWS and bad news time... First, the hard-to-credit good news is that the average motorist spent *less* in real terms on running his car in the year ending 30 April 1980 than seven years ago, when the DRIVE Index began its records.

The bad news is that he's managing it only by making cuts in mileage and maintenance.

Certainly, the Index's rise by 140 points since October 1973 would suggest the contrary — that motorists spent 140% more between May 1979 and April 1980 than seven years ago. But take out of this equation the effect of inflation in that time (when the spending power of the pound in your pocket dropped by 73%), and it emerges that drivers actually spent 12% less in 1979-1980.

This trend is especially surprising given the dramatic increases in the price of fuel. In fact, when you compare the price of an October 1973 gallon of 4-star (37.5p) to its April 1980 price of £1.39, and take inflation out of the equation, the real cost increase is just over 35%.

But our interviews with 12,000 motorists confirm that many believe that motoring has never hit their wallets harder. The average driver has reacted by driving fewer miles — 500 less in the year ending April than in the previous 12-month period — and by cutting down on other motoring expenditure. In real terms, compared to his outgoings in the year ending November 1974, he spent (at April 1980 prices), £35.75 less on

servicing and repairs, £22.91 less on 'All other costs', and £3.56 less on insurance. Despite the fact that he also spent £0.38p more on petrol, his overall outlay was £61.40 (8% down on 1973-1974).

Clearly, motorists have been economising across the board. When our new, regular table, the AA's Schedule of Running Charges (overpage), is compared against that for 1973, it shows that, if owners of 1001-1500cc cars had done as much driving in the 12 months ending April 1980

as they did in 1973, they would be spending 26% more overall instead of 12% less. Standing charges and the cost per mile would rise by 29%, and running costs by 22%.

● DRIVE's Index is the only meaningful guide to the average motorist's expenditure on his car. In this unique service, 1000 owners (picked at random each month) are interviewed on the number of miles they have driven, the amount of petrol they've bought, and all other outgoings.

The results of these interviews

are then added to the data from similar surveys in the previous 11 months. So, in addition to analysing the combined experiences of 12,000 drivers each year, the Index succeeds in ironing-out seasonal fluctuations.

Three main areas of expenditure are highlighted: fuel, servicing and repairs (including oil for topping-up) and insurance. Road tax, motoring-organisation subscription, parking fees, accessories and miscellaneous items are shown as 'All other costs'.

AVERAGE MONTHLY MILEAGE AND EXPENDITURE, excluding depreciation

MONTH-BY-MONTH ANALYSIS (all cars)	Mileage	Petrol (£)	Servicing/repairs (£)	Insurance (£)	All other expenditure (£)	Total expenditure (£)	Total expenditure per mile (pence)	Petrol expenditure per mile (pence)
April 1980	714	39.05	15.78	5.28	9.04	69.15	9.68	5.47
March 1980	674	37.49	13.91	5.36	8.22	64.99	9.64	5.56
February 1980	636	32.90	13.45	5.11	7.33	58.77	9.24	5.17
January 1980	626	31.63	10.22	5.04	7.76	54.64	8.73	5.05
December 1979	676	34.06	10.88	5.11	7.60	57.64	8.53	5.04
November 1979	685	33.07	13.79	5.00	8.47	60.33	8.80	4.83
October 1979	687	34.19	14.25	5.01	7.39	60.85	8.86	4.98
September 1979	764	33.76	11.38	4.91	7.96	58.02	7.59	4.42
August 1979	839	35.64	11.31	4.92	8.62	60.49	7.21	4.25
July 1979	720	34.28	17.93	5.06	8.03	65.30	9.07	4.76
June 1979	746	31.02	15.70	4.96	9.60	61.28	8.21	4.16
May 1979	733	27.05	17.93	4.86	8.91	58.75	8.02	3.75

PRESENT AND PAST ANNUAL EXPENDITURE (all cars)

May 1979-Apr 1980	8500	404.14	166.53	60.62	98.93	730.21	8.59	4.75
May 1978-Apr 1979	9017	288.12	187.67	54.81	105.51	636.12	7.05	3.20
May 1977-Apr 1978	8991	287.19	147.16	44.95	97.28	576.57	6.41	3.19
May 1976-Apr 1977	8962	291.62	133.03	42.68	81.42	548.75	6.12	3.25

'All other expenditure' includes outgoings on items such as road tax, parking, AA subscription, accessories, etc

Our table of monthly expenditure suggests that there has been another fuel cutback by car owners — a natural reaction to climbing petrol prices that were raised further by the March budget.

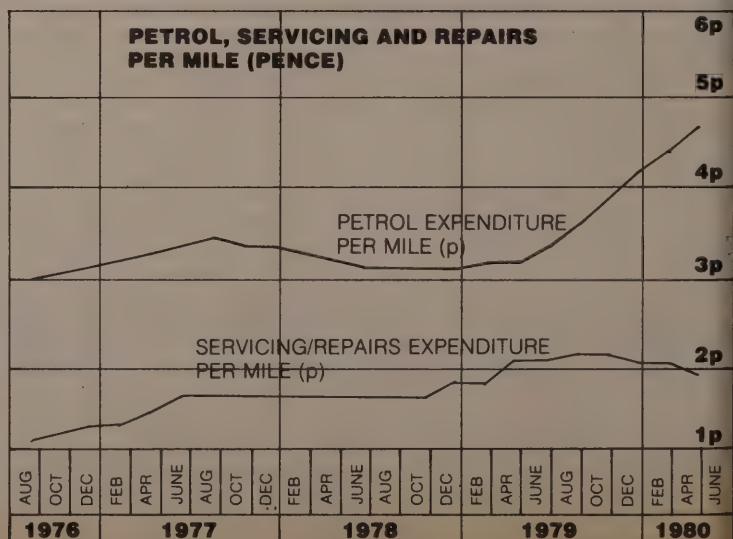
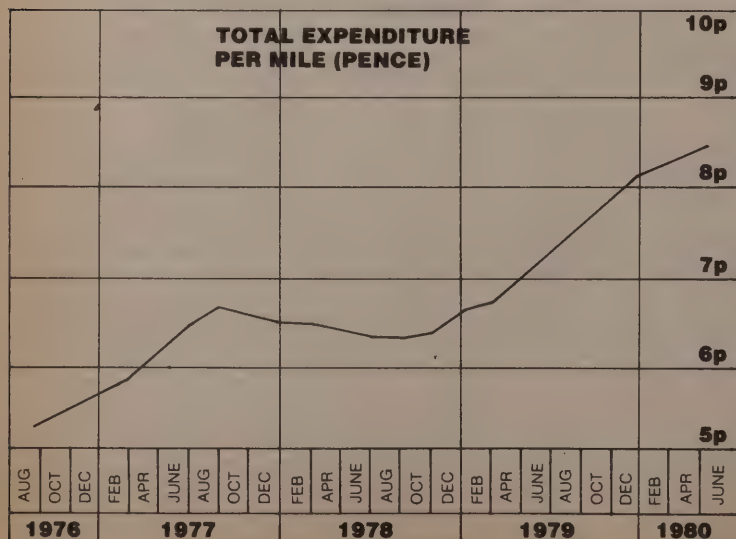
Certainly, owners' mileage continued to drop — down to an average of 8500 for the year. That's around 500 miles fewer compared to the same May-April period in 1976-1977, 1977-1978

and 1978-1979. Consequently, the average motorist's expenditure per mile rose less sharply in the year ending April 1980 (22%) than in the year ending February (23%).

Another factor that helped to slow the increase in motorists' expenditure per mile was the stabilising of outgoings on servicing and repairs. In the year ending February 1980, the average amount spent was £178.91. This

time, spending is no longer affected by the bad winter in the first quarter of 1979.

A last crumb of comfort: the 2% rise in the government's Retail Price Index for the year ending April (compared to the 12 months ending February) was matched by increases in wages. And a good job, too: the total of motoring expenditure recorded by the DRIVE Index is up by 2%.



not-so-supersave

MONTHLY EXPENDITURE NATIONALITY AND MAKE ANALYSIS (post-1970 cars)

	Mileage	Average age of car (years)	Petrol expenditure per mile (pence)	Servicing/repairs expenditure per mile (pence)	Total expenditure per mile (pence)
BRITISH	762	5.9	4.74	1.69	8.31
BL Cars	695	6.1	4.74	1.90	8.60
Ford	854	5.6	4.79	1.31	7.89
Talbot/Chrysler	697	6.0	4.92	2.26	9.22
Vauxhall	807	5.7	4.46	1.68	7.90
FOREIGN	765	4.9	4.65	1.27	7.93
French	769	5.1	4.75	1.50	8.32
Italian	731	4.8	4.25	1.18	7.33
Japanese	720	4.3	4.56	0.98	7.59
W German	852	5.5	4.71	1.01	7.45
Datsun	678	4.4	4.70	0.97	7.78
Fiat	698	4.9	4.21	1.16	7.33
Renault	739	5.3	4.80	1.17	7.99
Volkswagen	720	5.7	4.66	1.07	7.53

At first glance, it would seem that British cars are costing more to run than their foreign counterparts. In fact this isn't always the case, as the average UK model in our sample has a bigger engine (just over 1500cc, compared to 1400cc), and is a bit older (nearly six-years-old, against five years of age).

It is reasonable to assume that age affects servicing and repair expenditure, and that higher cc ratings have an influence on how much a car costs to run. Yet, despite these factors, owners of British cars spent, on average, less than ½p more per mile in the year ending April 1980.

Of the foreign makes in the table, Fiats performed particularly economically.

This NEW table is designed to show how expenditure is affected by the engine size and age of your vehicle. Best of all, perhaps, it indicates the age at which your own car may become prohibitively costly to run. As can be seen, cars up to 1050cc start to get expensive once they're seven years old, and 1051-1550cc models when they're three years old.

EXPENDITURE BY MILEAGE, ENGINE SIZE, AND YEAR OF REGISTRATION

KEY: Total expenditure per mile; Petrol expenditure per mile; Servicing/repairs expenditure per mile; Average monthly mileage.

Engine capacity (cc)	Year of registration										
	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	Pre 1970
Up to 1050	7.02	7.02	6.49	7.00	7.35	7.82	9.42	9.78	10.21	6.73	9.85
	3.69	4.37	3.75	3.86	4.00	3.90	4.54	4.28	4.02	4.05	4.26
	1.24	0.64	0.76	1.11	1.43	1.82	1.74	3.34	3.78	0.14	2.91
	677	656	713	558	563	544	441	515	445	458	437
1051-1250	6.98	6.36	8.26	8.07	7.69	8.16	7.54	9.02	8.46	11.02	9.36
	4.40	4.11	5.13	4.30	4.28	4.50	4.68	4.51	4.70	5.06	4.48
	0.69	0.79	1.10	2.04	1.60	1.64	0.80	1.92	1.81	3.52	2.66
	880	872	621	770	643	630	537	534	570	478	479
1251-1550	6.05	6.22	7.57	8.80	9.37	8.59	9.28	9.76	8.54	8.24	11.76
	4.07	3.99	4.66	4.83	5.73	4.69	4.22	4.58	4.57	4.83	5.00
	0.33	0.77	1.23	1.74	1.66	2.00	3.37	3.33	2.14	1.26	4.45
	1008	982	751	647	619	636	724	597	566	547	458
1551-1650	6.67	6.45	6.82	10.23	9.08	10.24	9.29	10.47	9.63	8.88	9.61
	4.75	4.45	4.53	5.79	4.72	5.36	5.57	6.23	6.37	5.29	5.45
	0.57	0.75	0.68	2.09	2.29	2.09	1.85	2.03	1.26	1.64	2.04
	1215	1157	914	753	750	732	653	601	607	588	511
1651-and over	6.24	6.65	8.31	7.69	10.29	8.32	10.35	10.77	10.84	10.71	9.40
	4.93	4.45	5.15	4.59	6.01	4.83	5.54	4.87	5.60	5.30	5.76
	0.07	0.81	1.03	1.40	2.28	1.98	2.94	4.16	2.68	3.68	1.78
	1291	1306	980	974	792	856	746	716	661	682	626

The Top Ten new-car sellers in April (source, the Society of Motor Manufacturers and Traders) were: 1 Ford Cortina; 2 Ford Escort; 3 Ford Fiesta; 4 Morris Marina; 5 Austin-Morris Mini; 6 Vauxhall Chevette; 7 Vauxhall Cavalier; 8 Austin Allegro; 9 Datsun Cherry; 10 Ford Capri. The most sought-after used cars (source, Computacar) were: 1 Ford Escort; 2 Ford Cortina; 3 Austin-Morris Mini; 4 Ford Capri; 5 MGB; 6 Renault 5; 7 VW Golf; 8 Ford Granada; 9 Triumph Dolomite; 10 Triumph Spitfire.

MONTHLY EXPENDITURE MODEL-BY-MODEL ANALYSIS (post-1970 cars)

	Mileage	Average age of car (years)	Petrol expenditure per mile (pence)	Servicing/repairs expenditure per mile (pence)	Total expenditure per mile (pence)
Austin-Morris Mini 1000	553	5.7	3.81	1.29	7.43
Allegro 1300	738	4.4	4.14	2.26	8.05
Maxi 1750	719	6.2	4.85	2.79	9.44
Marina 1300 Mk 1	576	7.4	4.71	2.42	9.31
Marina 1300 Mk 2	864	3.1	4.34	0.20	6.00
Marina 1800 Mk 1	634	7.3	5.00	3.81	10.93
Datsun Cherry	559	4.5	4.31	1.14	7.72
Sunny 1200	704	4.5	4.19	1.03	7.42
Ford Escort 1100/Popular Mk 1	558	7.7	5.02	1.29	8.63
Escort 1300 Mk 1	638	7.6	4.90	3.65	10.41
Escort 1300 Mk 2	934	3.0	4.20	0.75	6.47
Cortina 1300 Mk 3	705	7.5	5.68	1.95	9.72
Cortina 1600 Mk 3	746	7.1	5.26	1.85	9.37
Cortina 1600 Mk 4	1226	2.3	4.85	0.37	6.52
Cortina 2000	1050	5.1	4.60	1.28	7.47
Capri 1600	832	5.6	4.64	0.96	7.54
Talbot/Chrysler Avenger	689	6.6	4.93	2.55	9.41
Hunter	624	7.3	4.93	3.35	10.29
Vauxhall Viva 1300	678	6.7	4.13	2.16	8.16
Chevette 1300	834	3.4	4.02	0.97	6.80
Cavalier	1152	2.9	4.09	0.77	6.38

We have changed the models in this analysis to highlight individual cars rather than types of car. The list also represents the commonest cars in our survey's 12,000 sample.

BL Cars' products performed well in the 12 months ending April 1980, with owners of the Mini 1000 enjoying the best petrol-per-mile usage, and Marina 1300 Mk2 owners having the lowest overall expenditure per mile.

Age would appear to be an important consideration: the high-mileage Vauxhall Cavalier, for example, is the second-youngest in our sample, and it returned a creditable 6.38p per mile. Next-best was the Ford Escort 1300 Mk2 (the third youngest in the chart) at 6.47p.

The Ford Cortina 1600 Mk4 also cost less than 7p per mile.

The six cars here are commonly seen on UK roads but, because their numbers in our survey are smaller, this table can give only an impression of how much they cost to run.

Of this half-dozen, the Ford Fiesta looked the healthiest in the year ending April 1980 — but then it does boast the youngest age in the list.

MONTHLY EXPENDITURE OF OTHER POPULAR MODELS* (post-1970)

Austin-Morris Mini 850
Ford Fiesta
Renault 12
Talbot/Chrysler Alpine
Triumph Dolomite 1500
VW Beetle

Mileage

Average
age of
car
(years)

Petrol
expenditure
per mile
(pence)

Servicing/
repairs
expenditure
per mile
(pence)

Total
expenditure
per mile
(pence)

535
790
617
1054
642
625

6.1
2.6
5.9
2.7
6.5
7.8

4.14
3.99
5.29
4.51
5.66
4.34

3.03
0.79
0.53
1.31
3.02
2.00

9.46
6.55
8.49
7.50
10.90
8.12

*Unlike the table of post-1970 cars, the figures above are an approximation of likely expenditure, necessitated by the smaller sample of cars represented.



Bright new hope and expensive old favourite: Ford's Fiesta is the youngest and least-expensive of our new group; Volkswagen's Beetle meanwhile shows its age.

AA SCHEDULE OF ESTIMATED STANDING AND RUNNING CHARGES, 1980

STANDING CHARGES per annum (£) **ENGINE CAPACITY**
Up to 1000cc 1001-1500cc 1501-2000cc 2001-3000cc 3001-4500cc

Road tax	60.00	60.00	60.00	60.00	60.00
Insurance (a)	179.60	185.40	225.90	297.00	439.70
Depreciation (b)	387.95	480.96	645.60	1038.35	1766.08
Lost interest on capital (c)	318.12	394.39	529.39	851.45	1448.19
Garage/parking	104.00	104.00	104.00	104.00	104.00
AA subscription	15.00	15.00	15.00	15.00	15.00

TOTAL 1064.67 1239.75 1579.89 2365.80 3832.97

STANDING CHARGES PER MILE (pence)

Annual mileage					
5,000	21.294	24.794	31.598	47.316	76.660
10,000	10.647	12.397	15.799	23.658	38.330
15,000	7.098	8.265	10.533	15.772	25.553
20,000	5.323	6.198	7.899	11.829	19.165

RUNNING CHARGES PER MILE (pence)

Petrol*	3.281	3.857	4.590	6.241	7.750
Oil	0.225	0.234	0.243	0.286	0.419
Tyres (d)	0.381	0.423	0.513	0.781	1.255
Servicing (e)	0.562	0.526	0.567	0.689	1.019
Repairs and replacements	2.496	2.533	2.989	4.647	5.645

TOTAL 6.945 7.573 8.902 12.644 16.088

* At £1.35 per gallon. For every penny more or less on current price, add or subtract —

0.024	0.028	0.034	0.046	0.057
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TOTAL COST PER MILE (pence)

(based on 10,000 miles)					
Standing charges	10.647	12.397	15.799	23.658	38.330
Running charges	6.945	7.573	8.902	12.644	16.088

TOTAL 17.592 19.970 24.701 36.302 54.418

Figures are averages only. Where possible, motorists should substitute known figures.

(a) class 1 policy average with no no-claim discount; (b) based on 10,000 miles pa in a total car life of 80,000 miles; (c) new-car value invested at 10.25% pa; (d) based on life of 20,000 miles; (e) based on £10 per hour labour, plus VAT

As prices rise, more and more drivers want to know how much their motoring could cost. And you don't have to be an accountant to do your own sums — just consult this new table.

Despite the fact that your present car or prospective new model could take £3000 a year to run, the AA believes that few people realise just how much their motoring costs. The Schedule reflects all the costs involved — even those 'invisibles' when your car's just garaged at home.

The Schedule's insurance charges are based on a survey of 1 million motoring policies throughout the UK. Depreciation is estimated by taking the average cost of the most-popular vehicles in each class, and assuming a fall of 12½% per year. Why 12½%? Well, the AA's experts have worked on the basis that a car's economical life is eight years. 'Lost interest' is calculated on the assumption that the money spent on your car could have been earning 10.25% in a building society.

The assumptions for Running Charges are that it costs £2 for garaging and carpark charges, and that a set of tyres will wear out in 20,000 miles. Servicing estimates are based on manufacturers' own times and the current average of labour rates. 'Repairs and replacements' are calculated on 80,000 miles of motoring.

TWO for the price of ONE!



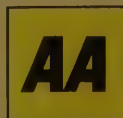
EXCLUSIVE
TO ALL AA MEMBERS

AA membership now entitles you to take advantage of an exclusive arrangement between the AA and Crest Hotels. If you hold a valid Membership Certificate you are now entitled to:

- * book a double or twin room at the normal single rate at any time of the week.
- * receive a 10% discount wherever Crest Hotels offer special rates at weekends under their Welcome Breaks scheme.
- * receive **free** accommodation at weekends (Friday, Saturday and Sunday nights) for up to 3 children under the age of 14 years accompanying parents.

This offer operates in 50 Crest Hotels and a leaflet giving full details of the scheme is available from all AA Service Centres and Crest Hotels.

With an offer like this can you afford not to be an AA member?



IT PAYS TO HAVE THE BEST

They'll take the high road

'Send us a postcard for the AA's 75th birthday,' we asked in the May-June anniversary issue of *DRIVE*. 'Just add a caption to these turn-of-the-century picture postcards, and we'll make a present of a fortnight's free holiday in Scotland to the five best.' Here are the winners.

1 Well, madam -- the inboard microprocessor computer panel seems to be faulty . . . -- WINIFRED MASON



2 'I couldn't care less about the European Agricultural Policy. What about my motor?' -- RODNEY BRANFORD



3 But JR. we can't have run out of oil' -- HARRY MOORE



4 'I wish they'd finish the line. This temporary Motorail is a bit much' -- EDWARD O'DOWD



1 'These new AA men are wonderful -- he's blowing up my tyre.'

Best overall standard

2 'It's all right -- I'm insured for third party, fire and squashed fruit.'

3 'Couldn't the 6000-mile service wait till we get home, darling?'

4 'These traffic wardens are keen -- two minutes overdue and they tow it away' -- ROBIN LINKLATER

But first, the apologies — to all the hundreds of readers who sent in excellent funny captions and didn't win; for all the captions about electronic ignition and turbochargers for caption 1; for the myriad variations on the insurance theme in caption 2; for the rude — often unprintable — suggestions for caption 3; and for the energy-conservation themes for caption 4. All were good, and *DRIVE* editor Anthony Peagam is emphatic that this is the best competition he has ever had to judge. In the end, some fine decisions had to be made on the basis of style and originality.

And it was style that paid off for Mrs Mason from Leicester in caption 1. 'It's the first thing I've ever won,' she told *DRIVE*. 'We love walking, too, so two weeks at Lochanully in Scotland sounds just the holiday for us.' 'Us' in this case, is Winifred, her husband Thomas, their son and his wife and their two children.

Originality was Mr Branford's forte, in caption 2; we had many lines about fruit and veg-

etables, but his brought it all excruciatingly up to date. 'The holiday sounds tremendous,' says advertising man Rodney. 'I work all year in London's West End, so Lochanully will make a welcome change.' He goes north with wife Gillian and their daughter and son.

Style won the day for caption 3-favourite, Mr Moore; a lot of caption-writers saw the fuel/oil-shortage possibilities here, but teacher Harry from Doncaster, S Yorks, added a television twist, so he will be taking wife Maisie and three teenagers to Lochanully. 'It sounds great,' he says, 'we really look forward to the freedom it offers.'

Edward O'Dowd neatly brought rail-travel into the picture for caption 4, and that brought the Newcastle Upon Tyne stock-control clerk a free holiday for his wife, baby daughter and one set of in-laws, too. 'We never dreamt we'd win,' says Edward. 'We've always wanted to holiday in the wilds of Scotland.'

Robin Linklater, however, was out on his

own, for sheer consistent good humour. Many contestants used one or other of his themes but Robin found them all, and goes to Scotland with a first-class honour in caption writing. 'We've never been to Scotland,' say sportswear designer Robin, from Kirby Muxloe, Leicestershire. 'We hope to go around Christmas time while there's plenty of snow. Our two daughters want to ski and sledge. And grandmum is going, too, to make their stay at Lochanully a real family affair for the Linklaters.'

All winners will have a free self-catering pine lodge in the AA-owned Lochanully holiday complex in Scotland's glorious Spey Valley — each accommodating up to six people, with full mod-cons, colour television and daily maid service supplied. To each, our congratulations, and hopes for a really fun fortnight. To all contestants, thanks for entering thanks for all the laughs . . . and watch out for *DRIVE*'s AA 100-birthday competition!

Take off for seventh heaven

Triumph TR7 Drophead

Price £3959 On the road £4199

head's lower profile is considerably more handsome, and it rewards the faithful by undercutting the Fixedhead's price.

Could all Triumph's second thoughts be so acceptable? DRIVE's testers consulted their seaweed and lowered the hood.

How it goes

The hard-top TR7's launch was made doubly disappointing by the absence of Triumph's 16-valve Dolomite Sprint engine. Instead, there's a 105bhp hybrid that combines the Sprint's 1998cc capacity with the standard Dolly's less-ambitious eight-valve head. Now that the Sprint engine is overshadowed by the forthcoming BL/Honda unit, any hopes for

more power must centre on Rover's larger V8.

Despite the short measure given under-bonnet, the TR7 is no slouch, offering strong pulling power with excellent fourth-gear and respectable top-gear acceleration. It does lack the free-revving eagerness of some Continental rivals such as Fiat's X1/9 — in fact, it becomes harsh at more than 5000rpm — and sounds unenthusiastic about spinning towards the 6500rpm limit. But there are compensations.

Though we achieved the admirable through-the-gear acceleration times overpage by revving to the limit, little urgency is lost by changing up earlier — thanks to the engine's good

spread of torque. This means that there's no need to stir the gearbox frantically in an attempt to keep the tachometer needle hovering around a high, narrow band of power. Just cruise up to mid-range speeds in the direct-ratio fourth gear and then floor the throttle: the TR7 will take off, pulling strongly all the way up to 100mph-plus, and even the over-drive top gear gives surprisingly punchy acceleration.

The gearshift gave us a pleasant surprise. Though moderately weighty in action, it is considerably lighter than the early TR7's four-speed box and, despite the extra cog, is just as precise around the gate thanks to a helpful spring bias towards the third/fourth plane. Well-chosen ratios allow a usefully high maximum speed in each gear, the short-travelling clutch bites positively



and bar one or two clonks, the driveline delivers the power on to the road very smoothly.

Like the gear shift, the steering is also lighter than in the earlier hard-top — achieved by lowering its gearing from 3¼ to 4½ turns from lock to lock. Of course, this does mean more wheel twirling on street corners and when manoeuvring but, on the open road, the low gearing is less of a handicap, with good road 'feel' and a quick response to minor corrections that will please the enthusiast.

Among budget sports cars, DRIVE rates Fiat's exhilarating, well-balanced X1/9 as the Rudolf Nureyev of the open road. The TR7 Drophead is more of a Kevin Keegan — a less-graceful mover, but a hard worker. The faster it's driven, the better the TR7 gets, its conventional but well-sorted live rear axle showing only slight rear-end bump steering when lateral ridges on a bend are met at speed. We found the effect far from alarming (and dare we say it) it can even add to the fun. Elsewhere, the TR7 goes where it's pointed, refusing to be shaken off-line, with well-controlled body roll and reassuring stability even on a wind-swept motorway.

The driving position's relationship to the major controls is so well contrived that only one long-legged tester complained at being too close to the pedals. Others found the seat travel generous, with the smooth-running adjuster making it easy to get comfortable behind the wheel. The reclining seat gives excellent lateral support, lumbar support has improved, and the pedals are well laid-out to make heel-and-toeing easy. There's even a foot support alongside the clutch.

Forward vision is poor. The aggressively slanted bonnet slips out of the sight of shorter drivers, while the tall found the steeply

HOW GOOD

At-a-glance

DRIVE's verdict on the Triumph TR7 Drophead, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●●●○○

FUEL ECONOMY

●●●●●●●○○○

HANDLING/STEERING

●●●●●●●○○○

COMFORT/REFINEMENT

●●●●●●●○○○

INTERIOR/LUGGAGE SPACE

●●●●●○○○○○

PASSENGER AIDS

●●●●●○○○○○

DRIVER AIDS

●●●●●○○○○○

ACCIDENT/INJURY SAFEGUARDS

●●●●●●●○○○

RUST RESISTANCE

●●●●○○○○○○

COST/EASE OF REPAIR

●●●●●○○○○○

raked windscreen cutting off the upper field of view. Raise the hood and rear-three-quarter vision is obstructed by nasty blind spots, which can also occur at the front, around the wipers' poor arc.

Instrumentation is comprehensive. A large, clearly legible speedometer and tachometer are flanked by supplementary gauges for fuel, coolant temperature, battery condition and a clock. They are mounted behind a single, non-reflecting pane, clearly visible between the wheel spokes and easy to read at night, when they're illuminated via rheostat control with a pleasant green hue. Set between the two main dials is a vertical line of eight warning

lamps, including a telltale for leaks from one of the two hydraulic circuits, and a 'belt-up' lamp. Unfortunately, the indicator's repeaters are too dim to show in bright sunshine with the hood down.

Two column stalks take care of the important minor controls. Indicators, headlamps (main beam and flash) and a strident horn on the left, and two-speed wipers and electric wash on the right. There is no intermittent setting for the wipers, only a flick-wipe position. The remaining minor controls are worked by vertically sliding facia switches that are easy to grasp and helpfully illuminated at night.

How comfortable

The TR7 is strictly for two as, unlike the MGB Sports, there's no vestigial bench behind the seats to accommodate even a four-legged passenger. Getting in and out requires a fair amount of youthful agility. The doors open wide and are held there by strong check-links, but it's a long step going in and, coming out, it's too easy to get mud on your legs from the prominent sill ledges.

Interior trim is of a high standard. The seats' wearing surfaces are clad in robust tartan cloth, and head restraints can be adjusted to serve as snug headrests. The central storage box has a padded lid and forms an armrest to complement those on the doors, and a rear-mounted aerial and speakers are included, but the radio is extra. The glovebox's lock is essential, for the TR7 Drophead is easily broken into, and the facia's top is designed to hold maps and small books without them sliding around — which is nice, but does cause reflections on the screen. The modestly sized boot has a fairly prominent sill, but its lid opens wide to swallow rigid suitcases as opposed to the crush bags that many a roadster's boot requires.

The attractive blonde in the TR7 brochure has little trouble folding the hood down, but we would like to see her attempt the reverse procedure. Even our burliest testers couldn't manage to raise the hood unassisted at first, though it did loosen up after 10 days of dodging summertime showers. Thereafter, easier operation also meant dents and wrinkles appearing in the plastic windows, making rear vision even more tricky when the hood was up. The rear window can be unzipped and rolled away, but the result is rather draughty round the neck. No, the only way to enjoy this car is with its hood stowed under its neat cover, and your head stowed under a tight-fitting hat — for there's a lot of wind buffeting after 50mph. Triumph



TRIUMPH TR7 DROPHEAD

Parts/repairs (inc VAT)

clutch £68.78 (fitting 3hr)
exhaust £49.68 (0.85hr)
headlamp unit £3.57 (0.4hr)
front bumper (3 sections) £130.41 (0.85hr)
laminated windscreen £59.46 (2.3hr)

oil filter and points £3.15 (0.9hr)
major service 6000 miles (3.8hr av)

Insurance group 6/7

Warranty 12 months/unlimited mileage, Supercover (second year optional)

Standing costs per year/12,000 miles

Loss of value £272
Capital interest £326
New-cost inflation £1122
Total standing costs=£1721 (14.34p/mile)

Running costs

Petrol (£1.38 per gal) £571
Insurance (av) £251
Road tax, AA sub £60+£26
Servicing/replacements £239
Total running costs=£1147 (9.56p per mile)
Cost of ownership £2868 (23.9p p mile)

HOW IT COMPARES

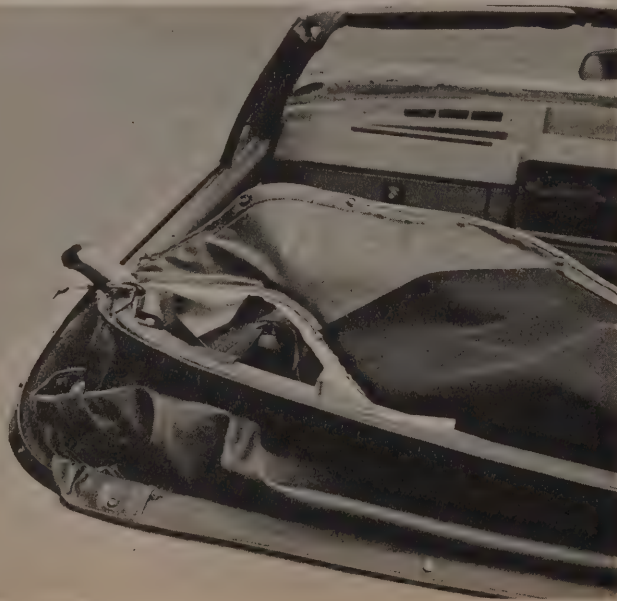
Triumph TR7 Drophead

Fiat X1/9 1500

Ford Capri 2000S

MGB

Volkswagen Scirocco GLS





ACCELERATION times in sec

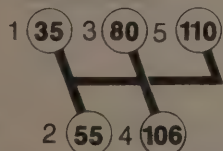
MPH	THROUGH GEARS	IN 4TH GEAR	IN TOP GEAR
0-30	3.3		
30-40	1.9	4.1	5.4
30-50	4.1	7.9	10.8
30-60	7.4	12.1	16.3
30-70	10.9	16.7	22.3



Speed-range times (sec) — 4th/5th gear

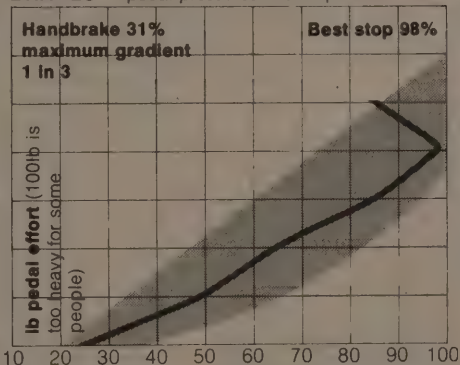
TOP SPEEDS

max engine speed
used 6500rpm
max in top/4th 5400/6200rpm
standing ¼mile 17.9sec



ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/CIRCLE (FT)
6062	1998	29	110	10.9	22.3/16.7	98/60	13' 4"	42½	NIL	4½/29½
5715	1498	36½	108	10.5	21.0/16.1	100/75	13' 0¼"	40	NIL	3½/32¼
5791	1993	30¼	109	11.5	20.6	100/55	14' 4¼"	41	36	3¼/34½
6223	1798	27	101	13.4	33.3/24.2	100+/70	13' 2¼"	42¾	NIL	3½/32¾
5889	1588	33¾	104	11.1	19.7	92/50	12' 9"	41½	33	3½/32¾

BRAKES — pedal pressures and responses



%efficiency (ideal car's breaking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)

45lb at start, 45lb in constant use; 65lb in severe use
Watersplash 60lb at first, 6 stops to recover

FUEL 4-star/97 octane min

Consumption — normal range

short journeys in the suburbs	22mpg
hard driving, heavy traffic	25mpg
brisk driving, mixed roads	29mpg
motorway — 70mph cruising	32mpg
gentle driving — rural roads	34mpg

Typical mpg overall 29mpg
realistic tank range 320 miles/11gal

Consumption at steady speeds	4th	5th
30mph	43½mpg	50mpg
56mph	36½mpg	40mpg
70mph	29½mpg	32mpg
max mph	18mpg	20½mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	head restraints: front? Yes
good road 'feel'?	Yes	rear? N/A
brakes: powerful?	Yes	interior: well padded? No
sensible effort?	Yes	w/screen: laminated? Yes
fade resistant?	No	doors: childproof? Yes
belts: effective?	Yes	latches crashproof? Yes
convenient?	Yes	petrol: shielded filler? Yes
fitted in rear?	N/A	protected tank? Yes

has done extremely well to eliminate all trace of rattles from the facia's mounting, and all the other creaks and squeaks usually associated with topless motoring. Likewise, the raised hood is draught-proof, rattle-free and doesn't suffer from excessive wind noise.

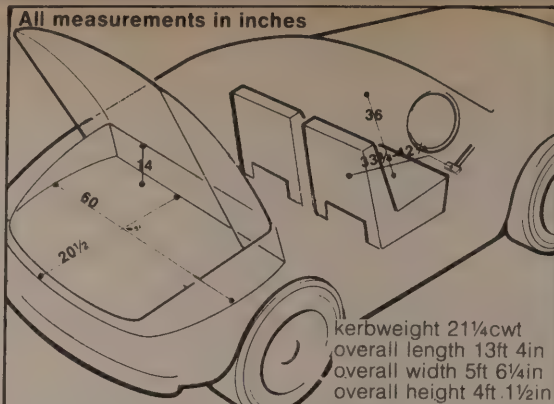
We have always been impressed by the TR7's ride, and this latest car moves even more comfortably. Admittedly, it can be a little jittery at low speeds on poorly surfaced roads, but as the pace quickens so does its resilience. It never feels flouncy or under-damped, the suspension's short but cushioned reaction to most bumps and hollows keeping the driver in touch with road conditions — which is just as it should be in a car of this type.

How safe

Apart from a little sponginess in mid-pedal-travel, and an annoying intermittent squeal from the front pads, the brakes performed well in both ordinary use and emergencies. The excellent best stop is delivered in response to just the level of pedal pressure we always look for, but rarely find. Pedal pressure does build up after a series of hard arrests, but it never becomes a problem. The disc/drum set-up does not like water, however: it took six stops to dry out after our watersplash.

Handling and roadholding are both exemplary. Even when entering a bend too quickly and backing off the accelerator in panic, there are none of the traditional roadster vices such as tail-swing to catch the novice out.

The Drophead's good tally in our safety checklist reflects its American market's requirements. Triumph has gone to a lot of trouble to pad the hood's bars, and the seatbelts are easy to locate and wear — unusual for a sports car. There's no rollover bar, however, which might be satisfactory for 50mph America,



but could be sorely missed by drivers in 70mph Britain who skid into a ditch . . .

How strong

We weren't too impressed by our car's anti-corrosion treatment. Apart from a half-hearted attempt at applying a bituminous compound under the wheelarches, the rest of the underside is protected only by primer and a vulnerable spray of light wax. There was no sign of any protection inside the closed box sections, but there were signs of rust bleeding from some of the seam joints. Our car's metallic paintwork — a £40 optional-extra — didn't impress, either: there were too many paint nibs and surface imperfections.

To its credit, the TR7's panels are free of unnecessary brightwork, and the sturdy bumpers with their large wrap-rounds are more than token gestures. The smooth lines also make washday easy, but don't forget to pop-up the headlamps in order to clean their lenses. Inside, the carpets can't be removed easily, so a compact vacuum cleaner is a must. The upholstery appears very hardwearing and looks as though it would withstand an unexpected rain shower if the car was left with the hood down.

Mechanical reliability has been less than ideal in the past. Triumph says that quality-control

procedures have been improved, and our test car did show some reassuring signs of this, but whether it will materialise in long-term use is still conjecture.

How much

Logically, the TR7 is expensive: for the same size of cheque one can buy a sports coupé with two extra seats and an adaptable hatchback rear, and the targa-top Fiat X1/9 and ageing MGB Sports are both £500 cheaper. Even the coveted Morgan 4/4 1600 is cheaper, but you have to wait years to get a new one. Apart from these, most obvious TR7 Drophead rivals are a good deal more expensive, but then the attraction of open-top sports cars has little to do with such logic.

Our depreciation figure is based on the Fixedhead's performance over the past two-and-a-half years, and it's high because this model's list price has risen so much. At present, we can only surmise that the Fixedhead will have to take its cap off to the Drophead's lower depreciation.

The five-speed Drophead delivered an overall 29mpg, about the same as an early Fixedhead car with the lower-g geared four-speed box. Our tests proved conclusively that more fuel is used with the hood down — about 2½-to-3mpg at high speed. If you are thinking of moving on to a TR7 from an MGB Sports, you will find it more economical, but there are rivals that can do a good deal better: we managed 36½mpg with the Fiat X1/9. Refuelling the TR7 via the business-like intake behind the rear window can be done full-bore up to the last gallon, but, thereafter, it's a matter of taking it easy to brim the tank.

Owners who use the driveway for pit-stops will find access to the coil and distributor difficult, and the back of the engine is best reached by detaching the heater's intake. Plugs are not too difficult to reach, but the twin SU carburetors are certain to cause some head-scratching for the novice. The handbook is more helpful than most, but no tools are supplied apart from wheel-change gear. The spare is located under



Major servicing comes round more frequently than most at every 6000 miles, but the 1000 UK dealers make finding a nearby one easy. New parts prices are a good incentive to buy British, and the warranty terms are comprehensive.

Verdict

Time has made the topless TR7 more alluring than she would have been five years ago: she's now a lively and forgiving sport. She may not be the ultimate in 'in'-car entertainment, but she is more of an 'in' car than the Fixedhead version, she's partial to a fast life, and has a hint of rear-end wiggle that should attract many admirers.

Just as importantly, she can stop them near dead in their tracks when needs must. It remains only for the Drophead to prove she's as dependable as she is arresting.

ENGINE

Type and size front-mounted, 4-in-line, water-cooled, inclined at 45°; 90.3mm bore x 78mm stroke=1998cc; 5 main bearings with iron block/alloy head
Compression ratio 9.25:1

Valve gear overhead camshaft (shim adjustment) chain driven

Fuel system two SU HS6 carburetors fed by mechanical pump from 12gal tank (no reserve)

Max power (DIN-net) 105bhp at 5500rpm

Max torque (DIN-net) 119lb ft at 3500rpm

TRANSMISSION

Clutch 8½in diaphragm spring, single dry plate, hydraulically operated; pedal load/travel: 33lb/4in

Gearbox 5-speed (all synchromesh) and reverse; ratios: first 3.32:1; second 2.09:1; third 1.40:1; fourth 1.0:1; top 0.83:1 and reverse 3.43:1

Final drive 3.9:1 to rear wheels

Mph per 1000rpm 20.8 in top gear/17.3 in fourth gear

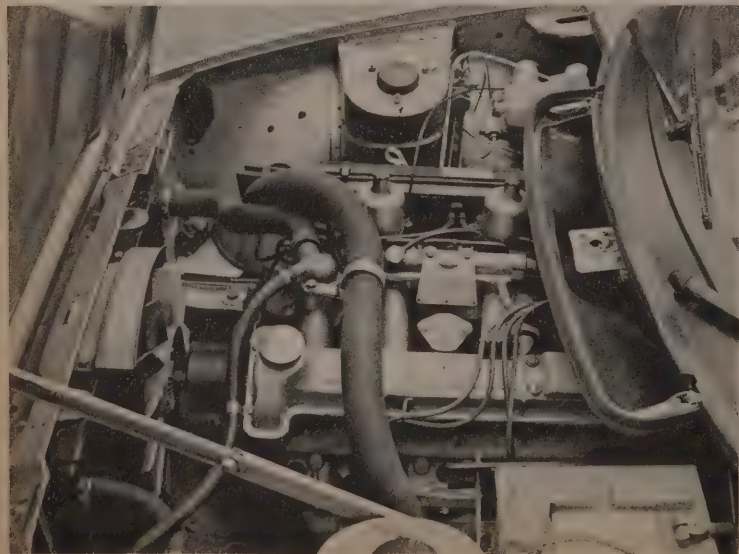
CHASSIS

Suspension — front: independent MacPherson damper/struts with lower links and an anti-roll bar. Rear: coil-sprung live axle with lower trailing and upper diagonal links; anti-roll bar. Dampers: telescopic type all round

Steering rack and pinion with 4½ turns between full locks. Turning circles average 29¾ft between kerbs, with 62¼ft in response to one turn of wheel

Wheels 5½J steel (optional alloy fitted to test car) with 185/70HR 13 steel-braced radial-ply tyres (Goodyear G800+S Grand Prix 70 on test car)

Brakes dual-line hydraulic; discs front, drums rear with vacuum servo and combined handbrake/line failure warning lamp



THE NEW SUPERSPEED AIR PUMP...

A tough Mini Compressor for Only £14.95.

(plus p&p)



Quite simply plug the Super Speed Air Pump into your car's cigarette lighter socket or connect it to the 12 volt DC battery in your car or boat. Then this compact little workhorse with its high speed motor gearbox and piston compressor will inflate airbeds, dinghys, bicycle tyres or footballs in next to no time. Even flat car tyres can be inflated in minutes.

It comes complete with rubber hose and locking valve connector, high pressure and cone adaptors plus a 12 volt power lead and plug – all stowed neatly inside an attractive and durable case measuring only 8½in x 5in x 2½in and weighing only 1.5 kilos.

At this super low direct purchase price every family can afford its own mini-compressor.

Buy the New Super Speed Air Pump and take the puff out of pumping. Inflates up to 45p.s.i!

SPECIAL OFFER Pressure Gauge

This tough nylon screw-in tyre gauge designed to fit the Super Speed and produced by England's leading manufacturer of pressure gauges has an easy to read 2in dial. Made to stringent British Standards it can measure

pressures up to 100 p.s.i. (6 in Bar) with an accuracy of over 99%.

Remember, correct tyre pressures are a legal requirement and they increase miles per gallon too!

Only £3.20
(plus p&p)



Credit Card Holders may telephone 24 hours a day on ☎ 0962 65996 and place orders immediately without completing the coupon.

And if you're not completely satisfied we shall be pleased to refund your money if you return your Super Speed or Pressure Gauge in good condition within 14 days.

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No stamp required just complete and send this coupon to:- NEW CONCEPT, DEPT. D/980 M FREEPOST, WINCHESTER SO23 8BR.

Please send me ___ Super Speed Air Pump(s) at £16.15 inc. £1.20 p & p and insurance.

Please send me ___ Pressure Gauge(s) at £3.45 inc. £0.25 p & p and insurance.

I enclose cheque/postal order for £ ___ or please charge my Access/Barclaycard

No. _____
Signature _____
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BARCLAYCARD

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New Concept

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Self-service checkout

EASY, ISN'T IT — car maintenance? A few sessions at the local night school, a modest investment in a workshop manual, and you can wave goodbye to all those 'inflated' garage bills. But self-servicers come in all sorts of shapes and sizes, ranging from the lad who is just about capable of changing oil and filters, through to the enthusiast who rebuilds gearboxes.

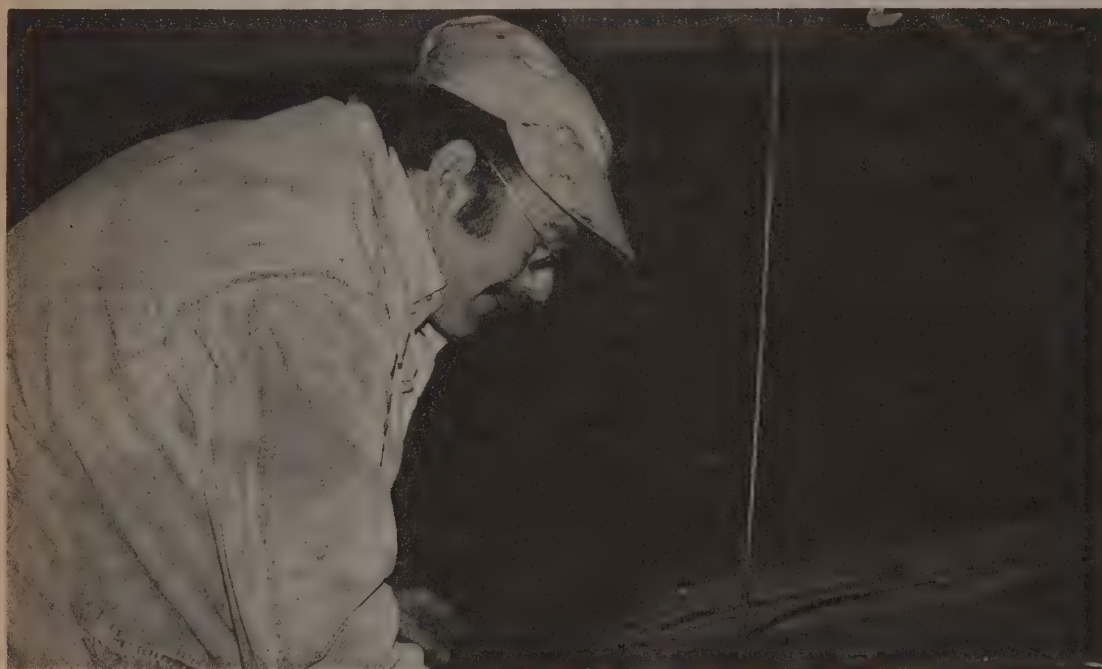
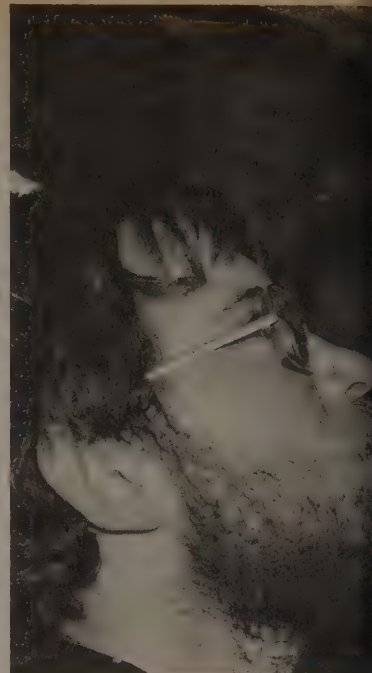
Are the amateur mechanics doing a good job, or are they responsible for machines that shouldn't be allowed on the road? **DRIVE** decided to test the DIY brigade with two of the easiest jobs in the manual — renewing the rear brake shoes and timing the engines of some specially prepared AA Ford Escorts.

We contacted 100 Escort owners, but just five men took up the challenge. All were warned that snags had been built in, and that they should take nothing on trust. Would they spot the weeping brake cylinder, the missing tensioner-spring or the air gap under one of the brake-shoe linings? An AA engineer scored the amateurs' efforts — and then assessed their own cars.

MEDICAL STUDENT Andrew Lindop, 22, arrived from Sheffield in his father's smart R-registered Escort Popular and told us: 'I do all the work on it. When I learned to drive, Dad bought me a Mini because he didn't want me to wreck his car, and I had to do everything myself.'

'I once took the engine out of a Beetle, but the hardest thing I have done is change the engine mountings on the Mini. I am self-taught all the way.'

Andrew had certainly learned how to use a workshop manual, and, using a set of old and rusting tools, went to work. He missed the brake-shoe fault and the wheel-cylinder leak and, like Stephen Clarke, didn't know how to adjust the cams. He did, however, carefully brush away brake-drum dust, and made a good job of timing the engine with the strobe. Slipping a bit on theory, he didn't know how often to replace the air cleaner,



STEPHEN CLARKE, from Basingstoke, Hampshire, became a DIY mechanic at the age of 17, when he was given an ageing Ford Popular by a school friend. He had no sooner collected the car when he heard the noise of big-end troubles. Today, he is a 31-year-old accountant with two cars, both more than 10 years old, on which he spends 'a lot of time'.

Stephen made a good start on the doctored AA car by spotting that the old shoes had been incorrectly fitted... but he was happy to fit new shoes that were clearly faulty: the gap between lining and shoe would have caused overheating problems. He realised that the spring was missing, and told us about the cylinder leak on the offside... but the nearside had a slight leak, too. He made no

attempt to clean out the brake dust, and didn't know how to adjust and reset the brake cams.

We offered Stephen the choice of a static or a stroboscopic lamp to time the engine, but he told us that this was a job he normally did by ear! Our expert was fascinated, but, sadly, he learned nothing: an engine can't be timed like that, and Stephen's setting was way off target.

His car theory had a gap, too, when it came to brake fluid: he thought it should be changed only when 'contaminated by dirt' — Ford says it should be changed every 36-39,000 miles.

Out of a possible 87 points, Stephen earned 55 — 62% — and the advice of our expert: 'Maintaining brakes isn't a job you get nearly right. If it isn't

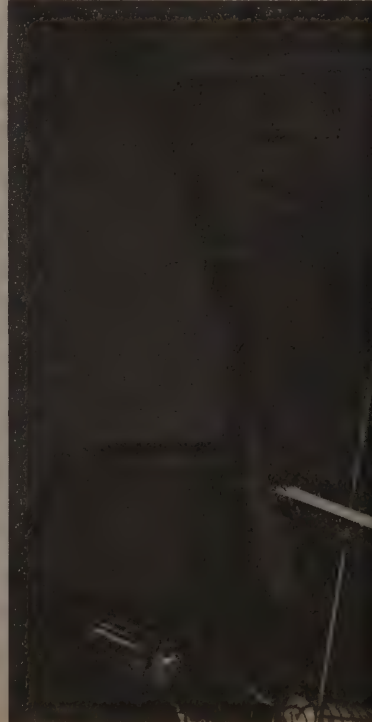
100% right, then it is wrong!' **And Stephen's own car?**

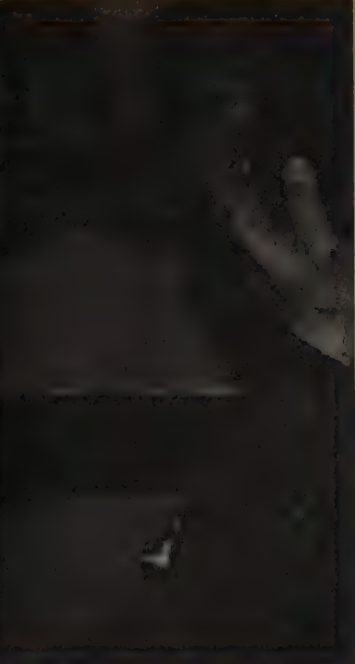
'A fairly tatty example, getting towards the end of its useful life,' said the AA engineer. 'In view of this, Stephen's attitude towards servicing was more a case of replacing bits that fell off, rather than carrying out preventive work. Nevertheless, most of the safety-related items were all right, apart from a leaking front damper, one incorrect tyre pressure and inoperative windscreen washers.'

'Stephen seemed well aware of most of the defects. Presumably he hadn't attended to them for reasons of cost, time and the need to rectify other more-serious defects. His technique for adjusting the car's ignition timing is not to be recommended.'

OUR STAR, and winner by a whisker, was Peter Brown, 26, from Fleet, Hampshire. An electrical engineer with BBC Television, Peter's DIY career started even before he had a car, when he was called in to help his brother at the age of 16. 'I learned from books — I'd just try it and see. Most of my work was done on an old Ford Popular, which I still own; I put it away for the winter and bring it out in summer.'

'High costs kept me away from garages, and, in any case, very few of them wanted to work on my Pop. If they were willing to do a job, they'd quote a ridiculous price. Eight years ago, I had to pay £20 for new kingpins! That was enough — I'll now tackle





contact-breaker points or brake fluid, nor did he know that brake fluid eventually absorbed water.

His practice, however, made him, if not perfect, as good as Stephen Clarke, with 62% marks and a consolation comment from our expert: 'Andrew also spotted that the centre shaft of the distributor was bent. As a technician of sorts, he displays the ability to think out unfamiliar situations and look up answers. He could solve almost anything.'

And the Lindop car?

'It appeared well cared-for. The exhaust's tail section had been recently replaced and the engine oil and filter changed. The sump was slightly overfilled - perhaps he'd checked the oil level on a slope - and the coolant level was a little low. A loose fanbelt needed attention, and the idling speed was set too slow. Headlamp alignment was slightly out, but this could be rectified only with specialist equipment.'

anything on my car. In fact, I've just about rebuilt it.'

He missed the faulty brake shoe on our Escort, though, and he removed drum dust by wiping it with his finger - tut, tut. And our super-critical man faulted him on failing to tighten the wheelnuts in the correct sequence - in opposite pairs.

Asked to adjust the timing, Peter admitted he didn't understand what was meant by dwell angle . . . but he still managed to do a good job.

On the theory side, he didn't know how often to change the air cleaner, sparkplugs and contact-breaker points, and he wasn't too sure on tappet-adjustment procedure. Nonetheless, his 83% was

worthy of a good car mechanic. **And Peter's car?**

'A well-used rather tatty car, with a fair number of mechanical ailments - most of which Peter seemed aware of. No excuses, though, for an empty washer bottle and a front tyre at 14psi.'

'The oil had been changed 1000 miles previously, and the contact-breaker points were virtually new. Surprising, however, that the ignition timing was 8° retarded: Peter is obviously capable of setting it correctly. This error might explain the low idle speed and CO readings obtained.'

'Other faults that were worthy of note were a leaking front shock absorber and a detached rear anti-roll-bar bush.'



NIGEL JUDGE, a 22-year-old baker from Kingsclere, Hampshire, has been driving since he was 17. He started his car-owning career with a Vauxhall Viva estate, and had owned his Escort for just 18 months. 'It hasn't given me much bother, but I had to have a new 'short' engine put in - my brother's mechanic friend fitted it for me. I'll tackle any small job - change the oil filter, check the brakes; if I can't do the job, I get a mate to help.

'I don't go near garages if I can help it. Mind you, I wouldn't have tackled this job on my own car. I haven't replaced brake shoes before, I haven't seen a car timed, and I wouldn't know a strobe if you showed me one.'

After having a try, Nigel conceded: 'I have learned something today. At least I can fit brake shoes properly, now, but I still wouldn't know how to start on timing - I'll get help if the car isn't running properly.'

Nigel certainly needed all the help he could get, missing every fault that DRIVE had built into the job, except for the really severe wheel-cylinder leak. He made a good job of fitting new contact-breaker points, but, for no good reason he could think of, set the gap at .015in instead of .025in. And he made no attempt to adjust the timing. Other mistakes

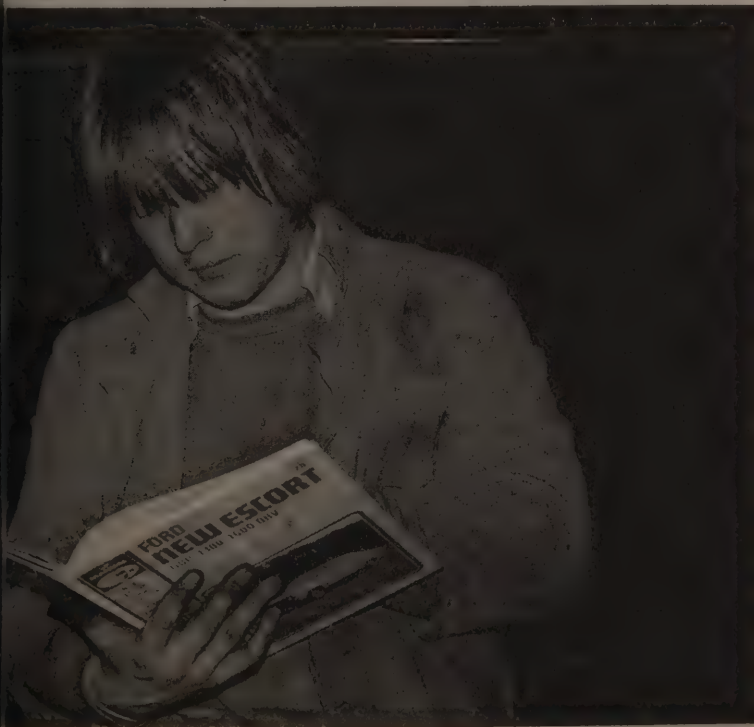
included fitting both trailing shoes on the same wheel, not lubricating the brakes, fitting a bottom spring on the top, and another spring upside-down.

On the theory side, Nigel scored three right answers on the 10 questions, - and achieved only 47% overall. But at least he knew his shortcomings and - don't laugh - that might be more important than what many of us think we do know . . .

And Nigel's car?

'In a poor state of tune: the ignition timing was over-advanced; idle speed was much too high at 1600rpm; and the slack fanbelt should have been rectified by even the most-casual DIY owner. Nigel had recently had a new propshaft and new rear shock absorbers fitted, but the front 'shocks' were leaking. Neither had he replaced the two rear tyres, one of which was nearly bald and the other (a remould) had dangerous cracks in the walls. A previous owner had fitted new brake pipes all round, but hadn't clipped them properly in place. And the flexible brake hoses were the originals - one of which was cracking.'

'Headlamp alignment was almost immaterial as the nearside unit had a Continental-pattern, dip-beam cut-off that would dazzle oncoming traffic.'



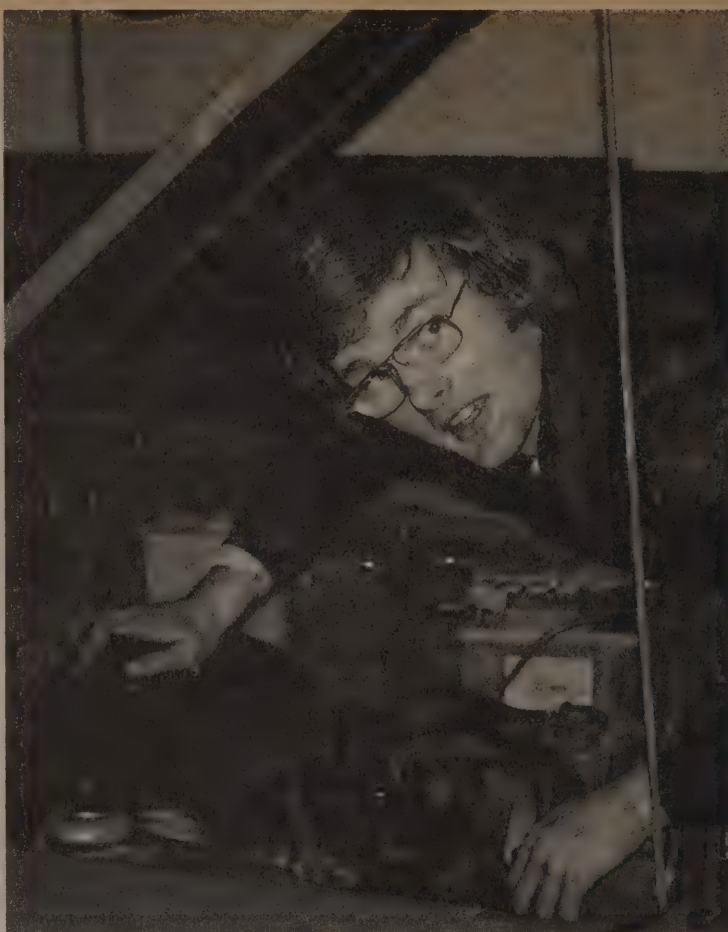
ANDREW RAWLINSON, a 26-year-old chemical engineer from Basingstoke, Hampshire, is the owner of a mean-looking Escort RS2000: 'I do all my own jobs, except those needing special and expensive garage equipment. I started driving when I was at school but I didn't buy a car of my own until I started work at 21. It was an Escort, too — a 1300cc estate. I learned on that with some help from a mate.'

'About three weeks after buying the RS2000, I blew the engine and had to replace it; I just followed the manual. Next on my list is a gearbox strip — the box is knackered.'

Andrew proved to be very good, and he was quick, too — perhaps too quick to spot the faulty shoe. 'I have never heard of that one,' he admitted. 'I am amazed that anyone could sell something like that.' (DRIVE had in fact had two shoes in four sets deliberately made faulty, but, to prove our point, one of the shoes in the fifth set that should have been perfect was also suffering from a gap.)

He made no attempt to clean out the brake dust, being rightly worried about the dangers of inhaling a few specks. 'If there's a lot of dust on my own brakes, I try to catch it in water,' he said. 'Difficult, though — it floats.'

Andrew collected three black



marks on theory: he didn't know how often to change the air cleaner or the plugs, and wasn't sure how to adjust tappets. Nevertheless, he was very nearly the best we'd seen, and we gave him 80% for his efforts with the AA test car.

And Andrew's car?

'Well this car had been used as the makers intended — it had been fitted with a roll-cage — and you could make a fair guess at its high mileage without looking at the odometer . . . But his claim that the car was halfway through a service was borne out by the healthy state of tune and the spotless engine oil. The level, however, was a bit low: oil was leaking slightly from various sources, including a disconnected crank-case breather; more serious was the leak from the front differential bearing — oil was being flung on to the flexible brake hose, which was swollen. Other faults were a worn propshaft universal joint, worn and leaking gearbox tailshaft bearing, two missing valve caps, a defective sidelight and an empty washer bottle. Mr Rawlinson was aware of the leaking shock absorbers and planned to tackle the job, but we suspect that he has more enthusiasm for driving the car than for carrying out the tedious maintenance tasks of which he is probably capable.'



Do it our way

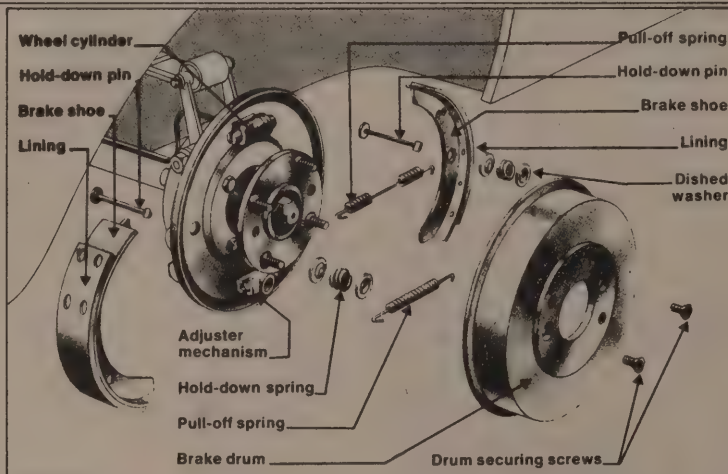
ANYONE CAN REPLACE rear brake shoes by following DRIVE's step by step instructions — if everything goes smoothly. But as every amateur mechanic knows, DIY servicing is full of snags . . .

DRIVE asked AA engineer Charles Surridge to list a few of the problems that he has encountered in his years underneath motor cars:

Draw a sketch of the brake part's layout before starting work to avoid incorrect re-assembly.

Look for oil in the drum — you could need a new oil seal or cylinder rubbers; or it could be that the bearings are simply over-packed with grease.

If there is no obvious oil leak



don't ignore the possibility of seepage from wheel cylinder units.

If brake shoes are oil contaminated, they cannot be cleaned; both sets of shoes must be replaced.

Brush out brake dust with a paint brush and do it delicately — asbestos in lungs can be fatal. Under no circumstances should brake parts be cleaned with petrol or any other mineral-based solvent — you could damage the wheel cylinder rubbers.

If the drums are scored they must be replaced — an expensive but necessary task.

Don't use excessive force to remove the drums and never, never use a hammer.

Carefully examine new brake shoes for manufacturing faults.

House bricks may be acceptable for supporting a car if you're a wheel thief, honest people use axle stands.

Make sure that your hands are clean when handling the new shoes.

Generally, no lubrication is required at all, but, if your workshop manual says otherwise, use the correct grease.

The Soft-Shoe Shuffle

Apart from new brake shoes, you will need brake grease, a screwdriver, Mole wrench, mallet and pliers. The procedure then is to —

1 Jack up the rear of the car and support it on axle stands

2 Remove the wheels

3 Slacken off the handbrake, pull off the brake drum and slacken off the automatic adjuster

4 Remove the hold-down springs and pins by compressing the spring and twisting the dished washer (your car may be different in this respect)

5 Note the position of the shoes so that the new ones can be fitted correctly, then, using the Mole wrench, lever out the shoe platforms

6 Remove the pull-off springs, lift the shoes out, and wire-up the wheel cylinder to retain its piston

7 Clean the back-plate, cylinder and pivot point with a rag and methylated spirit

8 Service the adjuster mechanism, lubricating the threads and piston with brake grease; make sure that the adjuster is fully retracted

9 Fit the lower pull-off spring between the new shoes; spread the shoes and fit their ends into the appropriate slots at the bottom and top, then fit the top pull-off spring

10 Refit the hold-down springs, remove the wire retainer and replace the drum and road wheel; press the brake pedal to centralise the shoes and recheck the adjustment

Sounds easy doesn't it? And if this were all that DRIVE's guinea pigs had to do then their task would have been simpler. But the DIY man's life isn't always so simple, is it?

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MONEY
SAVER



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roll up**

Save £10

MOST CAR MAKERS don't credit their customers with much more than the skill to change a wheel. At least, that's what's implied by their meagre offering of a jack, wheelbrace and, perhaps, a box spanner. But DRIVE has a higher opinion of its readers. Given our Tool Roll, we reckon you could tackle all manner of car maintenance and repairs to save time and money.

AA engineering experts made this selection of the best DIY equipment around, and we put it together in a neat roll that will stow easily beside your spare wheel. The kit includes: seven open-ended spanners in dual A/F and metric sizes ($\frac{3}{8}$ "- $\frac{3}{4}$ " and 10mm-17mm), multigrip pliers, a 6in adjustable spanner, six ignition spanners, a tyre pressure gauge, compact screwdriver, 10-blade feeler gauge, reversible screwdriver (single blade and cross-point), plug tester, magneto file and wire brush — all housed in a handy pvc roll.

Our tool roll has recently carried a pricetag of almost £26, but DRIVE readers can snap up this Money Saver for only £13.95 (plus £1.25 postage and packing). Just fill in the coupon and send it with your cheque or PO payable to the AA.

DRIVE Tool Roll Money Saver

NB Don't want to cut the coupon and spoil DRIVE? If you don't, please print all the same details in the same order on a plain sheet of paper or postcard. Offer available only to readers in Gt Britain and N Ireland, closes 31 December, 1980.

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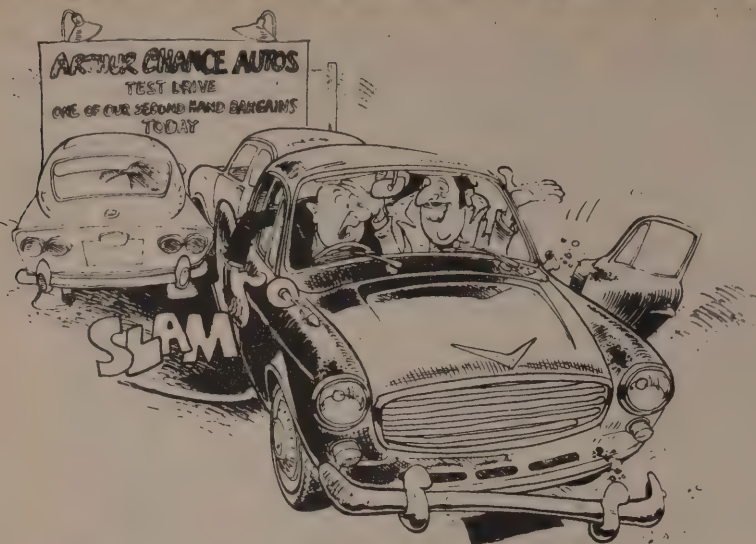
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D1

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Now opening to rave reviews

Charles Darwin would have approved of the Reliant Motor Company: to survive in a hostile world that's ruled by motoring's giants, little Reliant has learnt to survive by breeding cars that have few natural rivals.

Reliant's three-wheeled Robins have had a technological adversary only in the form of a certain TV programme, and the Scimitar GTE has had the sporting estate-car market virtually to itself for the last 12 years. It sold well, too, until evolution went slightly wrong in the second generation. Fatter — and softer, some said — the Mk2 Scimitar found few new customers, and lost many existing ones with its quality-control problems.

Two years ago, therefore, Reliant's new management returned to the origin of the species, designing a car that, once

Reliant Scimitar GTC

Price £11,160. On the road £11,500

more, had no real rival in price or specification — the soft-top Scimitar GTC. Sporting types regard it as the natural heir to the notorious but much-missed Triumph Stag; BMW and Volkswagen regard it as a rival to their cabriolet conversions of the 323i and Golf GLi saloons. *DRIVE*'s raciest testers regarded it with envy, and looked out their little woolly hats . . .

How it goes

The Scimitar's 2.8litre Cologne V6 engine is borrowed from Ford's Granada, and replaces the identically powered, 135bhp 3litre Essex engine that was fitted to earlier models. It's an instant starter, and runs smoothly from

cold with the aid of an automatic choke. Through-the-gears acceleration is respectable rather than stunning, so it is its smooth, flexible pulling power that really impresses — as shown by the similarity of our top-gear speed-range times, overpage: it can even cruise at 30mph in top-gear overdrive — should you ever want to. Maximum speed on the test track is a howling 116mph, dropping slightly when Laycock's Overdrive is switched-in, and (rather academically), when the hood is lowered.

It's no illusion that the engine sounds exhausted at the top end of its rev range, for our best acceleration times were achieved using 5500rpm — ignoring the

tachometer's encouragement to use 500rpm more. The GTC's ultimate performance might disappoint those seeking a really 'hairy' sports car, but Reliant could please everyone easily by offering Ford's fuel-injected engine as an option. But this is to miss the point of this Scimitar: like its sister GTE and the similar Lancia Beta HPE, the GTC is a relaxed, high-speed grand tourer.

The gearbox, too, is Ford's, with a smooth flick-switch for Overdrive that works on the two upper gears to give a choice of six well-spaced ratios. Unfortunately, our test car's gear shift was not up to Ford's usual standard, needing a firm hand to overcome its obstructiveness and strong bias towards the third-fourth plane. Selecting reverse was a two-handed job, and some



testers complained that the central armrest's stowage bin hampered their gear-changing. A further handicap is the weighty pedal of the hydraulically operated clutch, which can make town driving tiresome. Otherwise, its take-up is smooth and progressive, matching the throttle and absorbing the backlash in the transmission silently.

For those who can't get to grips with the shift, Reliant offers automatic transmission as a no-cost option: our feeling is that it might detract from much of the car's effortless cruising ability. Power steering is fitted as standard, but can be omitted on request. On our car this felt slightly vague around the straight-ahead position, but otherwise it was precise, with heavy weighting at lower speeds. Steering 'feel' cannot be as good as most manual systems', but many owners should find that the enhanced responsiveness and easy manoeuvrability will more than compensate. Turning circles, however, are poor, making most U turns a three-point affair.

Helped by the deep front spoiler, stability at speed is excellent, masking the steering's vagueness and giving the driver confidence through fast bends. On smooth surfaces, the Scimitar corners neutrally, ultimately sliding on all four tyres in an attitude that can be balanced by the degree of throttle used. In this situation, steering corrections are easily achieved, and backing-off the accelerator in mid-corner produces no unwanted response.

When the going gets rough, however, the Scimitar can cut two ways. Bumps easily deflect the GTC off course, calling for constant minor steering corrections, in spite of the well-located live back axle. It never behaves dangerously, but drivers used to more-sophisticated all-independent suspension systems might find it a tiring characteristic; enthusiasts will regard it as all part of the fun.

In keeping with its grand-touring styling, the GTC's driving seat is not as low as lowlier sports cars', but there is the inevitable, dominant transmission tunnel, narrow footwell and closely spaced, offset pedals to get used to. The Scimitar best suits those with long legs and short arms, but the seats are well shaped and the footrest next to the clutch is a thoughtful touch.

The more-important minor controls are governed by Vauxhall/Opel steering column stalks, Reliant resolutely keeping the indicator stalk on the right-hand side: we approve. Clearly marked Smiths Instruments' dials in the centre console cover a multitude of engine functions with

accuracy — and with a few reflections. Behind the steering wheel, the matching 140mph speedometer and 7000rpm rev counter are so deeply recessed in the fascia moulding that they can be partially hidden from a tall driver's view, and they're separated by a circular Triumph-style dial with eight warning lamps.

When the hood's up, wind noise dominates at cruising speeds, but it's softly-softly by soft-top standards, enabling easy conversation at 70mph. A rear window heater switch and warning lamp hint at a forthcoming detachable hardtop.

How comfortable

The single-skin hood fits snugly and keeps out the rain, but its prominent and poorly finished frame is put to shame by the higher standard of overall trim. Raising and lowering the hood is a three-to-five minute job for one person, but care is needed to avoid scratching the Vybak windows, and engaging the toggle catches above the windscreen requires some mechanical sympathy. The hood stows neatly beneath a detachable cover, but a full-length tonneau cover would be appreciated by fresh-air enthusiasts. As in the TR7 Drophead, the GTC's rear window unzips to enhance the already good ventilation through four eyeball vents — a sensible half-way measure for our climate.

A four-seater it may be, but rear-seat testers objected to the bolt-upright, knees-bent seating position imposed by the low,

heavily sculptured seat squab and its vertical backrest. Elbow- and headroom is good, but passengers tend to come to blows with the T-bar rollover cage when emerging from their seats; apparently, it's quite painful... Fortunately, the front seats move forward when their backrests are tipped (without disturbing their angle of rake), and the door apertures are usefully wide. Crushed velour is a nice seat covering for saloons, but we can't help wondering how it will look and feel after a soaking during a topless motorway trip.

Oddments' space is good by any standard, with a lockable glovebox, centre armrest bin and small door-armrest pockets. A useful feature is the removable rear wall in the boot, which extends the rather meagre luggage capacity into the car itself, where more space can be gained by using the individually folding rear-seat backrests.

The air-blending heater's flow is controlled by vertical sliders for temperature and distribution, but our test car's output was biased towards the passenger's side, and it could not achieve a completely cold setting. Adding to the problem, heat soaked through from the engine to make the interior uncomfortably warm when stationary, and accentuating the lingering smell of glass-fibre resin. Ram flow through the eyeball vents is good, and the two-speed fan's assistance at other times is peaceful. Positioning of the vents is not ideal for the driver, but the outer pair can be directed at the side-door window for demisting; quite what one does about wintertime demisting of the hood's rear windows and sidescreens we don't know.

At low speeds, the throbbing exhaust is the dominant source of noise, closely rivalled by rough-road creaking from the hood, around the window frames. At higher speeds, wind noise dominates the by-now pleasant burble of the exhaust. Mechanical noise is low and the suspension quiet, but our test car had a particularly prominent alternator whine and a noisy electric cooling fan. Of course, with the roof down, these minor irritations are blown away, leaving the Scimitar gliding along to the accompaniment of only the exhaust's happy V6 murmur.

Traditional British sports cars are expected to ride firmly, and the Scimitar's no exception. The snag is, while the front suspension is solid and uncompromising, that at the rear allows the car to bounce and pitch over undulations — particularly when they synchronise with the suspension's rhythm. It's disappointing — especially considering the number of suspension revisions made to the Scimitar range since

RELIANT SCIMITAR GTC

Parts/repairs (inc VAT)
clutch £96.50 (fitting 3.25hr)
exhaust £164.86 (1hr)
headlamp units £31.80, £22.25 (0.2hr)
front bumper £63.07 (4hr)
laminated windscreen £106.56 (0.5hr)
Fitting times for GTE 3litre; new 2.8 may vary

oil filter (no points) £5.85 (0.5hr)
major service 6000 miles (4.5hr)

Insurance group 9/special terms
Warranty 12 months/12,000 miles

Standing costs per year/12,000 miles*

Loss of value £727
Capital interest £613
New-cost inflation £1321
Total standing costs=£2661 (22.2p per mile)

Running costs

Petrol (£1.38 per gal) £625
Insurance (av) £490
Road tax, AA sub £60+£26
Servicing/replacements £297
Total running costs=£1498 (12.5p per mile)
Total cost of ownership £4159 (34.7p per mile)

HOW IT COMPARES

Reliant Scimitar GTC

VW Golf GLI

BMW 323i Cabriolet†

Porsche 924 Lux (4-speed)

Saab 900 Turbo 3-door

HOW GOOD

At-a-glance

DRIVE's verdict on the Reliant Scimitar GTC, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●○○○○○

FUEL ECONOMY

●●●●●○○○○○

HANDLING/STEERING

●●●●●○○○○○

COMFORT/REFINEMENT

●●●○○○○○○○

INTERIOR/LUGGAGE SPACE

●●●●●○○○○○

PASSENGER AIDS

●●○○○○○○○○○

DRIVER AIDS

●●●●●○○○○○

ACCIDENT/INJURY SAFEGUARDS

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RUST RESISTANCE

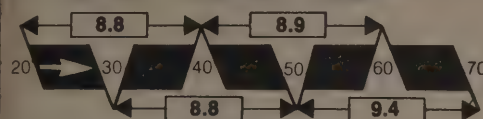
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EASE/COST OF REPAIR

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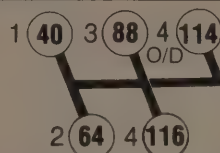
ACCELERATION times in sec

MPH	THROUGH GEARS	IN TOP GEAR	O/D TOP
0-30	3.4		
30-40	2.1	4.5	6.6
30-50	4	8.8	13.7
30-60	6.6	13.4	20.7
30-70	10.4	18.2	28

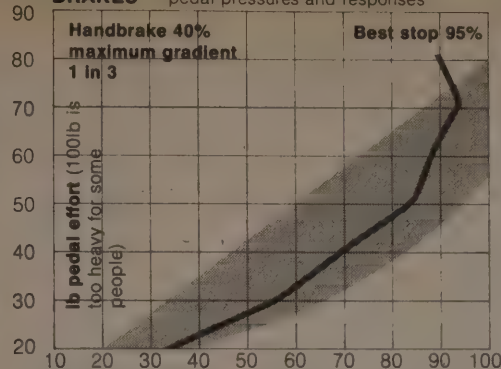


TOP SPEEDS

max engine speed used 6000rpm;
max in top 5600rpm;
standing ¼ mile 17.7sec



BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)

45lb at start; 45lb in constant use; 56lb in severe use
Watersplash 64lb at first, 1 stop to recover

FUEL 4-star/97 octane min

Consumption — normal range

short journeys in the suburbs	19mpg
hard driving, heavy traffic	23mpg
brisk driving, mixed roads	26mpg
gentle driving — rural roads	30mpg
motorway — 70mph cruising	31mpg

Typical mpg overall 26½mpg
realistic tank range 480 miles/18gal

Consumption at steady speeds	4th	O/D
30mph	39½mpg	46mpg
56mph	34½mpg	36½mpg
70mph	27½mpg	31mpg
100mph	17¼mpg	21¼mpg

SAFETY CHECKS O=factory fitted option

steering: energy absorbing?	Yes	head restraints: front?	O
good road 'feel'?	No	rear?	O
brakes: powerful?	Yes	interior: well padded?	No
sensible effort?	Yes	w/screen: laminated?	Yes
fade resistant?	Yes	doors: childproof?	N/A
belts: effective?	Yes	latches crashproof?	Yes
convenient?	No	petrol: shielded	
fitted in rear?	Yes	filler?	Yes
		protected tank?	No

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (% G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
11,530	2792	26½	116	10.4	18.2	95/70	14' 6½"	42	36½	2½/40½
7010	1588	32½	110	9.5	20.7	95/55	12' 6½"	40¾	38¾	3¾/33
10,814	2315	26¾	120	9.0	17.8	93/40	14' 3½"	40¾	38¾	4/31¼
9873	1984	30½	125*	9.4	19.8	95/50	13' 8¼"	46	24½	4/31
10,537	1985	26½	120*	9.1	19.7/14.5	100/50	15' 6½"	39½	39	3¼/34½

Flags for saloon equivalent

*estimated.



A black and white photograph showing the front interior of a 1965 Ford Mustang. The view is from the driver's side looking towards the passenger side. The car features bucket seats with a horizontal ribbed pattern, a three-spoke steering wheel, and a dashboard with a central instrument cluster. The center console has a gear shift and handbrake. The overall aesthetic is classic mid-1960s American automotive design.



How to gain up to £600 Bonus

in difference between 'Ordinary' and Dealers' top 'Book' price condition for 3yr. old car on trade-in
Whilst still enjoying lively car in remarkable trim

Only a thoroughly rust proofed car that's meant to stay rustfree no matter what, stands to gain between £400 and £600 MORE for 'top end' book price on trade-in. So it pays to consider Waxoyl rustproofing. Firstly because WAXOYL DEFINITELY KILLS OFF RUST. (Only rust proofer, that does according to tests by one of world's biggest oil companies.) Activation come-back no longer a problem.

Rust Grows Upwards. Finnigan's found erosion spores at every assembly stage in stripped down new and used cars. Rust gnaws upwards. Surface 'bubbles' defy scraping, overpainting. MORE of the infernal stuff lurks UNDERneath! Waxoyl Spray plan covers every underbody rust trap, every rust menace of road and weather. Because you do-it-yourself and it's your car, it'll be yet another THOROUGH Waxoyl

rustproofing job. At one Tenth of professional Centres £85+VAT (mostly for labour) Get Waxoyl now. Old Car? New Vigour! If there's metal to protect. Waxoyl will protect it, eg. load-bearing chassis members, jacking points, brake cables, inherent lubricant is no bad thing for suspension resilience, and shock absorbers. Helps revive 'tired' electrical insulation. Spray plugs, distributor, battery terminals, for easy wet weather starting, save fuel. Helps recapture smooth ride pleasure, rebuild road worthiness. One spraying does it! Out lasts engine life.

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TRIAL OFFER: 500ml (.88 pt.) TIN for your trigger oil can test behind chrome strips or brush-on door edges, free brake linkages etc.. Watch Waxoyl 'chase' water off simple metal strip. Quite amazing! Send £1.64. Post Free.

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COMBINE with oxygen and water, some rival rustproofers disintegrate. Swiss Govt's tests report: (Waxoyl) "Metal unchanged." This is music to Finnigans. Good news for you! Get Waxoyl to be sure. Gain that marvellous 'Book' price BONUS on trade-in!

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| <input type="checkbox"/> 20 litre | <input type="checkbox"/> Aerol |
| <input type="checkbox"/> 60 litre | <input type="checkbox"/> Trial |

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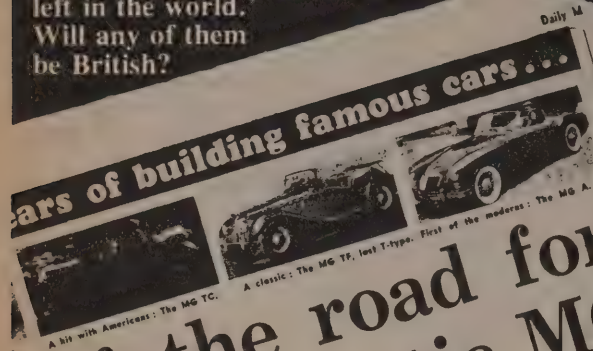
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Is there any future for the British motor industry?

by Graham Turner

'Within 10 years, there will be only five major car manufacturers left in the world.' Will any of them be British?



of the road for the romantic MG

A hit with Americans: The MG TC.

A classic: The MG TF, last T-type. First of the moderns: The MG A.

Japan builds up exports of used cars

By Our Morning Correspondent
Japan is a growing market in second-hand Japanese cars, with exports to 14 years in jail.

Go-ahead for Chrysler rescue

From Alex Brummer in Washington

The Chrysler Corp will issue the first \$500 million of US government-backed notes tomorrow.

By Peter Waymark
Thousands of British motorists are driving Ford cars with an automatic transmission which the National Highway Traffic Safety Administration in the United States has...

'Ford gears bring 23,000 complaints'

By Peter Waymark
Thousands of British motorists are driving Ford cars with an automatic transmission which the National Highway Traffic Safety Administration in the United States has...

Bank of Frankfurt, which was...

Bank of Frankfurt, which was...

Bank of Frankfurt, which was...

Car crisis: action call

Bank of Frankfurt, which was...

A history of Britain—in cars



THE FIRST PAIR of Ford cars arrived in Britain from Detroit in 1903, but it was not until 1911 that the Ford Motor Company (England) was established and home production of the legendary Model T began at Trafford Park, Manchester. Sister-plants were set up in Germany and France, and, in the UK, not even war could interrupt production. On the contrary, production in Manchester was stepped up to 100 cars a day and the company built tanks, too. By 1925, the company was on the move to Dagenham.

The replacement for the legend came in 1927 — the hefty, 3.3litre Model A. But Ford was soon thinking small again, with the launch in 1932 of the 8hp Model Y, the smallest Ford yet. Models then came thick and fast: the V8 18F, the CX de

Luxe, Popular (a £100 version of the Y), Prefects and Anglias.

World War 2, and Dagenham gave up cars to make military vehicles. By 1945, Ford had produced 360,000 fighting and transport vehicles, 262,000 V8 engines, 34,000 Merlin aero engines, and had increased its workforce to 34,000.

The pre-war V8 was relaunched in 1947 in the form of the 3½litre Pilot, but the big fuel-guzzler was not a winner in this austere period. In 1950, it was replaced by two all-new cars, the Mk1 Consul and the Zephyr/Zodiac, which transformed Ford's UK image with their transatlantic styling, speed and comfort. Changes were also being made to the bottom of the 'sit up and beg' range, and the lowline New Anglia and Prefect were launched in 1953.

In 1962, a medium-sized car with the name Cortina was launched, along with revamped Zephyrs and Zodiacs, and it was the Cortina that was destined to be Ford's star: the Mk1 became a million-seller within four years.

That was followed by the Escort, in 1968, with the Capri hard on its heels. (The Capri, by the way, was pushed into Britain by Ford US, because the somewhat-similar Mustang had been a success there: British marketing men wanted to sell the Corsair instead — and how wrong they were.)

The next decade saw three more versions of the Cortina, the Consul/Granada range, a new Capri and Escort (and yet another due, any day), and, back full-circle to Ford's first small car since the 1930s, the Fiesta.

Ford is now the UK leader in sales of cars, commercial vehicles and tractors ... and Britain's biggest car-importer, too.



LIONEL MARTIN built his first car in 1913, but it was not until his cars achieved success in 1920s Aston Clinton hill-climbs that two halves of the names united as

Aston Martin. In the intervening decade, however, the company had built only 100 cars, and by 1925 the name was handed to A C Bertelli. He used his own, 1500cc overhead-camshaft engine, and this powered Astons until 1940.

After the war, the company passed to the David Brown Tractor Group, which at the same time also took over Lagonda. This provided a superb twin-overhead-cam 2½litre engine, designed by W O Bentley, and turned Astons into a real force at Le Mans. It also gave birth to the DB Series, running from 1 to 6, with a 160mph DBS V8 in 1969.

In 1974, the company was back in financial straits, and was bought out by a consortium headed by American Peter Sprague and Canadian George Minden. A decade of strength followed, with waiting lists for Vantages, Volantes and Lagondas — and, only months ago, a takeover bid for dying MG. Sadly, however, this July saw Aston Martin backing out of the MG plan. AM is once again drawing in its horns ...

IN AN UNCERTAIN world, one thing at least is certain: motor cars, of one kind or another, are going to be with us for a very long time. The question is, how many of them will be British?

The answer — sadly — will not be decided in Longbridge, nor in Dagenham, nor even, for that matter, in Detroit; it will be decided in Takaoka and Zama, and the other great Toyota and Nissan car plants in Japan. For no one in the British motor industry is now in any doubt that it is the Japanese who are setting the pace for the entire world motor industry.

If you find that difficult to believe, go to Ford of Europe's headquarters at Warley, in Essex and meet Bill Hayden, its director of manufacturing. Ford is easily the most efficient car maker in Gt Britain, and Hayden is one of its best men — a shrewd, cool businessman who has been around the motor industry a long time and doesn't easily get excited.

Hayden has just come back from Japan, and is frankly horrified by what he found there. Why?

'Because, deep down,' he says, 'I had to wonder how the hell we at Ford have managed to get so far behind without even realising it!'

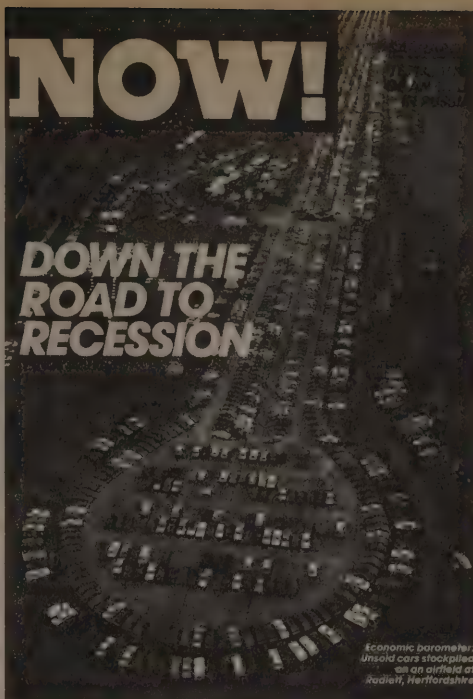
Ford doesn't readily give best to anybody, but, so far as Hayden is concerned, the figures are irrefutable — and they add up to the fact that, on present performance, Ford simply cannot compete with the big Japanese companies. That's why today — like BL in Britain — Ford US is reluctantly considering a plan to join them, in a deal that would have Ameri-

cans building Toyota cars in Detroit factories that Ford has had to close. And why Ford already owns 25% of the Toyo Kogyo company — Japanese makers of Mazda cars.

The productivity gap between Ford and the Japanese, says Hayden, is now so enormous that, if Ford UK manned to Japanese levels, it would employ only 30,000 people in this country, instead of the present 76,000. That, plus massive capital investment in robots, is one reason why the Japanese can currently produce and sell a Cortina-type car for £1000 cheaper than Ford. But far from dumping their cars in Britain, adds Bill Hayden, the Japanese make even more profit on them here than they do in Japan: the Datsun Cherry, for example, which is on the market in Japan for a pre-tax £1661, sells here for £2221 before taxes.

Nor is there very much doubt about the Japanese car makers' long-term intentions, as I discovered when I went to Japan myself. At the end of an eight-day tour of the big Nissan plants, and feeling stunned by the effortless efficiency of it all, I said to one of Datsun's young executives that within 10 years there probably would be only five major car manufacturers left in the world — General Motors and Ford in the US, Toyota and Nissan in Japan, and, if we were lucky, one in Europe. The man from Datsun smiled faintly for an instant. 'Morgan?' he suggested.

Where does all this leave our own car makers? Despite Michael Edwardes' efforts, BL clearly is in an appallingly difficult situation. It is not merely that its share of the British market has declined during the last decade; its share of the



European market is now so modest (around 1%) that it no longer even appears on the charts kept by companies such as Renault.

So far as overall volumes are concerned, it comes as quite a shock to realise that, in 1979, BL turned out only 70,000 more cars than Mercedes-Benz (503,000 to 433,000) — a 'specialist' manufacturer at the top end of the market; in 1971, British Leyland was out-producing Mercedes by three cars to one (886,000 to 284,000).

Ask some BL senior executives to look five years ahead, and they put forward

two unofficial scenarios, one pessimistic and one optimistic:

First, the good news. 'So far as I can see,' says one of BL's top men, 'the best is that, by 1985, we shall be a largely domestic producer, with three basic model lines — the Mini Metro and its successors; the LC10 range (a medium car due to replace the Ital/Marina, Allegro, Maxi and Dolomite models in 1983); and a new Jaguar range. Of course, the Land-Rover and Range Rover would go on, but the top end of the LC10 range and bottom of the Jaguar range would cater for the other markets that Rover currently supplies.'

The bad news? 'Those parts of BL that have survived by 1985 will be linked up with other manufacturers. One of the options is to develop an even closer tie-up with Honda [next year, BL starts assembling and selling the Bounty, a new Honda of roughly Ford Escort-size], though that may provoke political opposition from other European manufacturers. Alternatively, BL could seek a marriage with a major Continental car maker.' And he implies that BL is urgently pursuing that possibility.

One thing no BL man will commit himself to is which scenario is the likelier. The more hard-headed executives in the motor-component industry, on the other hand, have little doubt.

'Unless it can find a really good link with someone,' says a director of one of BL's biggest component suppliers, 'I don't give it any chance at all. It won't go out of existence this year or next, if only because it and the government are bound to give the new Mini Metro a run. But beyond that, I think that BL is bound to

NOW! magazine, July 1980

Graham Turner is a freelance writer and broadcaster on the British motor industry, and author of *The Leyland Papers* (Eyre and Spottiswood).



THE NAME 'VAUXHALL' derives from an adventurous Norman soldier called Fulk le Breant, hired by King John to do a variety of dirty deeds. A social climber, he was rewarded with a house by the Thames known as Fulk's Hall — corrupted over the years to Vauxhall. It is also likely that the gent chose the mythical griffin for his coat of arms; and in 1857, when Scottish engineer Alexander Wilson set up in business at the Vauxhall Iron Works in south London, he took the griffin as his company badge.

It wasn't, however, until 1903

that the Vauxhall Iron Works produced a car — a one-cylinder two-seater that could reach 25mph. Two years later the factory moved to Luton, and in 1908, it produced a 20hp car known as the A Type — a success then and a legend today. By 1910, Vauxhall was building six-cylinder cars for the wealthy, and production continued up to World War 1.

The company concentrated on cars for the War Office until 1918, then revived a smaller model — the 14/40. But sales were terrible, and the firm poured good money after bad, investing in all kinds of motor sport. In 1925, it was acquired by the American General Motors... and overnight Vauxhall's direction was changed from catering for the wealthy to looking after the rest of us.

The 1930s saw ever-less-expensive Vauxhalls, and, in 1933, you could buy its 12hp car for only £195: the Light Six picked up 40% of the UK market. Between 1933 and 1934, output doubled to an annual 20,000 cars, turnover rose to £7million, and

the workforce to 6000 — all in a major recession.

In 1937, Vauxhall plunged into the competitive 10hp market, risking millions on the first UK car to have no separate chassis (the way all cars are made today).

A new era dawned in 1948, as the company began its biggest expansion programme, and the 1951 Velox and Wyvern E Types ushered in curved windscreens and sideways opening bonnets. A year later, new short-stroke engines were added, and the Cresta appeared as the top car of the fleet. An all-new model in 1957 — the first Victor — became Britain's No 1 export car.

In 1975, the little Chevette heralded a new era. Like Ford, GM began producing the same cars in Britain (Vauxhall) and W Germany (Opel), and today only the Chevette is UK-built; the rest of the range is assembled here from imported Opel kits. Even with these included, however, Vauxhall ranks only fourth in the UK car-sales league... behind even the French PSA group.



IF HENRY ROYCE had liked his second-hand Decauville, that might have been the end of it. But the 40-year-old engineer was sure that he could do better, and on 1 April

1904 his first car took to the roads of Manchester... and orders were taken for two more cars.

Meanwhile, Charles Rolls was making a success of his show-room, selling Panhards. A third party arranged the historic meeting of the pair on 4 May 1904. Royce would build, Rolls would sell, and the cars must be called Rolls-Royce.

In 1905, the company marketed a 10hp for £395, a 15hp for £500, a 20hp car for £650 and a 30hp six-cylinder model at £890, but the range was quickly simplified to that exclusive job at the top of the tree — the Silver Ghost.

During World War 1,

BRITISH MOTOR INDUSTRY start running out of road.' In his view, it is significant that the BL board still has not given the go-ahead for the LC10 range. This, he thinks, means that it is not going to be given the necessary money by the government, and that it is 'looking for another way out as hard as it can'.

Nor does he, and others, believe that BL can look for salvation in a closer alliance with Honda. 'I favour the idea of a Japanese tie-up,' he says, 'but I don't regard the Honda link as significant. If it were one of the big Japanese companies — Toyota or Nissan — I would take a lot more notice.'

'When you look at it, Honda hasn't made any significant commitment to becoming a European company. So far as I can see, its deal with BL gives it a "Trojan horse" into Europe. I don't see the arrangement going much further.'

In terms of mass-market models, BL simply doesn't have the scale that the 1980s will demand. Producers of popular cars will have to sell 400,000 a year of each of their models to make a decent return; BL, with a total output last year of only just over 500,000, is unlikely to be in that league. There is also worry about the future prospects for BL's more-prestigious marques. Jaguar needs a new model, and production there goes on falling; to some critics, Rover's forward planning appears to lack a winning formula. And few can see where the money is going to come from to build that side of BL's business.

Nor is it believed that import controls offer any way out: try to restrain imports



Honda's Prelude — BL's Bounty. But is it a Trojan horse in disguise?

of Japanese cars, and the Europeans will come in to take their place. Try to reduce the import of all foreign cars, and what will happen to dealers who now depend on them for their livelihood? Far too big a slice of the British market is already in foreign hands to make import controls practical politics.

So far as many people in the industry are concerned, however, Ford of Europe is an entirely different matter. Its US parent may be passing through rough waters, and it may itself be agonising over whether it has the remotest chance of catching the Japanese; but its future model range looks to be on target successfully for the decade ahead.

At present, Ford of Europe offers five models — the Fiesta, Escort, Cortina,

Capri and Granada. The signs are that the Capri will shortly be dropped, and that the eventual replacement for the Granada will simply be a stretched version of the Cortina — a few inches longer than the replacement Cortina, but not so wide as the existing Granada. This will effectively give Ford a three-model range — the right recipe for the competitive and capital-hungry 1980s.

Where will Ford produce them? Unhappily it is unlikely that the company will prefer Britain to, say, Belgium or Germany for any major new investment in car-assembly capacity. On the other hand, the shrinkage in the Ford range is likely to affect its Continental plants more than its British factories: after all, neither the Capri nor the Granada is pro-

Rolls-Royces were used as staff and armoured cars, and civil production resumed in 1919 with few changes. A lighter model subsequently was brought in, and this 20hp car went to a steady stream of customers until 1925, when the first of six Phantom models founded a line that continues today. The 1929 Phantom II was the last of the giant sixes, with 7668cc under its bonnet; a lightweight form, it reached 100mph.

Rolls-Royce didn't like the competition from the 8litre Bentley, and bought out the struggling firm in 1931.

By World War 2, the Phantom was powered by a V12 engine, a spin-off from the company's aero interests. Through the war, tank and aircraft engines were built; car production resumed in 1946, with a new 4½litre Bentley Mk VI and Silver Wraith.

The Silver Cloud took over the sales from 1955 to 1966, and was eventually fitted with a 6.2litre V8 engine; but it took the company until the Silver Shadow launch, in 1966, to dispense with a chassis. Then, the big V8 grew to 6.7litres and the name Corniche was revived for a more-sporting image. Later, the

Camargue was added to the fleet, ensuring that Rolls-Royce would continue to build some of the world's most costly cars.

Expense was no object to sales, and, until this year, prospective buyers have had to wait up to two years for their car. Ominously, in recent months R-R has admitted that anyone with £40,000 can have a car virtually 'off the shelf'.



THE TALBOT name goes back to Clement Talbot, who began his UK career in

1903 with badge-engineered French Clements. But the Sunbeam name goes back even further — to 1887 and a bicycle company. The first UK Talbot was marketed in 1906, but it was some years before the car became a British product.

Meanwhile, in 1927, Humber decided to buy up its neighbour Hillman, and Commer. In France, the Darracq company bought out Sunbeam, and changed its name to Automobiles Talbot.

Out of the heap came Rootes, a company set up to build a motor-empire, which had brought Hillman, Humber, Talbot and

Darracq under one banner by 1935. In 1938 Rootes restructured the Talbot-Darracq side of the group, creating Sunbeam Talbot.

New Talbots were based on the Hillman Minx and Humber Snipe, and, although Talbot devotees had been appalled by the take-over, the cars were a success. More-powerful engines gave them rally-winning potential, which culminated in the Monte Carlo success of 1955.

That was also the year in which the French side of the business was bought by Simca, which, over the next 10 years, succumbed gradually to American Chrysler, which, in 1967, also picked up the British Rootes end.

By the mid-1970s, contracting Chrysler was regretting its European adventure. On 10 August 1978, French PSA — the Peugeot/Citroen/Chrysler group — bought the European operation and, on 1 July 1979, renamed the UK empire . . . Talbot.



THE FIRST three-wheeler Morgan was built in 1909 by HFS Morgan

at Malvern, and the model changed little over the years.

The first four-wheeled Morgan was launched in 1935, and used a Coventry-Climax engine; production ceased through the War, when the factory was turned over to munitions production, but the model was revived in 1945 with a special engine made by Standard; there followed a series using Triumph-derived units. From 1955, Morgans started using Ford power, ranging from the Anglia engine to the 1600cc Cortina unit. The present Plus-Eight, introduced in 1966, uses a Rover engine.

The bodyshape, however, has remained remarkably faithful to its origins. There have been designs for more-modern Morgans, but these had no appeal. And there is still a world-wide queue for this cult car.



years to offer his products to the public. The Lotus Seven, powered by an 1172cc Ford engine, was an instant success, not least

LOTUS CARS was building 'specials' in 1947, but it took Colin Chapman another 10

duced in Britain, whereas all the more-popular models are, and that situation is unlikely to change.

The odds against our other major car makers, Vauxhall and Talbot, retaining their British assembly plants throughout the 1980s are much longer. GM-owned Vauxhall now has a more attractive model range than for years, but its share of the home market remains low. In 1971, Vauxhall made almost 200,000 cars in Britain; last year, even including the kits supplied by Opel, its German sister-company, it did not reach 100,000. One reason, as senior Vauxhall men privately concede, is that its dealer network doesn't carry the same clout — pound for pound — as, say, Ford's.

Vauxhall, in fact, has increasingly become an assembly satellite for Opel. Last year, 40,000 of the 98,000 cars put together in Britain were Carltons and Cavaliers — assembled in Luton from Opel kits. Of Vauxhall's entire range, only the Chevette is now produced solely in Britain, and when that is phased out, next year or in 1982, there will be little that is distinctively British about any of its cars. Executives argue that, in all this, it is merely sailing with the tide. There is, they say, less and less dissimilarity in national tastes.

Nevertheless, many people in the motor industry believe that Vauxhall will keep at least one assembly plant in this country, even if partly for political reasons. 'General Motors is always going to be putting cars together here,' says the corporate planner in one of Vauxhall's plants, and it's also going to want to keep

a British presence from a public-relations point of view.

Some of Vauxhall's competitors have come to exactly the same conclusion. 'I'm sure that General Motors won't put any new investment into the UK,' declares a senior BL executive. 'Don't forget that GM is already fully stretched on capital investment, trying to hold back the Japanese in America. And the plain fact is that, compared with W Germany, Britain is a bad place to build cars. So the Vauxhall investment here certainly won't grow; if anything, it'll reduce. General Motors will want to keep it going, but not put more in.'

I cannot see Vauxhall hanging on to its Ellesmere Port plant. Luton, by contrast, has a better chance of survival. But, although senior Vauxhall men are more optimistic than they were a year ago about the prospect of maintaining a sizeable British assembly operation, the time could come when General Motors will judge it more economical to supply the entire UK market from its Continental plants.

Talbot's long-term future in Britain could be more problematic still, despite the fact that it is now part of Europe's biggest car-maker, the Peugeot/Citroen/Chrysler conglomerate, PSA — 2million cars produced in 1979. Size, however, does not eliminate difficulty, and PSA is now faced with the daunting task of rationalising its three ranges. It is, essentially, the same kind of problem as that which confronted British Leyland in 1968, although PSA's strength is that its management is far better than BL's ever

was at the various stages of its growth and rationalisation.

The scale of its problems, however, may be such that it simply will not be able to afford the luxury of high-cost, low-productivity plants, particularly if their labour-relations are also troublesome. This, in the view of some of the shrewdest judges in the British industry, implies that Talbot's plants at Linwood and Ryton could be on a relatively short fuse.

'Like Vauxhall,' says a director in one of the biggest component companies, 'it will want to keep a British presence if at all possible, if only for political reasons; but, if it has a lot more labour trouble, it won't hesitate to prune out the British plants. It will just say "enough is enough"'. Its Scottish plant at Linwood would be the first to go. If it keeps a token presence throughout the 1980s, it'll be the Ryton factory near Coventry.'

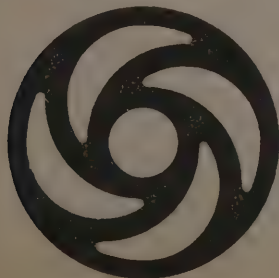
There is no doubt that the British motor industry now faces the toughest decade of its entire existence. For some companies it will be a matter of life and death; for the 800,000 people in the business — from raw materials through to the boardroom — it could be even more serious: up to 500,000 on the dole.

By 1990, it could be that, of today's major companies, only Ford will still be producing cars with a significant British design element. So far as BL is concerned, everyone must hope that Michael Edwardes will be able to do the impossible. At the moment, however, the odds against a miracle look long, and even a good 'marriage' — or marriages — would be a famous victory.

because of its low price: you could buy it as a big box of bits, and assemble it over a long weekend.

Style was added in 1959, with the arrival of the first Elite, and then, in 1962, came the Elan. A cheaper Lotus — the mid-engined Europa, powered by the Renault 16 engine unit — was a big seller abroad.

Cheap Lotuses came to the end of their road in 1973, when VAT meant that buyers could no longer save money by building their own kit-cars. Lotus off-loaded the Seven to Caterham Cars and turned to high-priced luxury machines, marketed today as the Eclat and Esprit.



DR FREDERICK William Lanchester built the first British four-wheeled, petrol-driven car in

1895, when the speed limit was 4mph and a man was supposed to walk ahead of every vehicle. After that, UK car companies sprouted like mushrooms, and it was not until the post-war boom of 1945-1946 that the first moves took place towards the eventual creation of British Leyland as we know it today.

The Nuffield organisations comprised Morris, MG, Wolseley and Riley, and was matched in size by Austin. Standard took over Triumph, and Daimler and Lanchester were run by BSA. Still independent were Jaguar, Rover and Alvis.

Nuffield and Austin saw little point in competition, and came together in 1952 to form the British Motor Corporation; the result of that marriage was the Morris Minor 1000.

This decade was the heyday of British cars: racegoers all over Europe pined after Jaguars as the XK120 began a series of Le Mans victories that ran from 1951 to 1957; BMC's works rally team won everything with its MGs and Austin-Healeys (and eventually Minis). In 1957, Britain was the biggest exporter of motor vehicles in the world.

When, in 1959, the first Mini

rolled off BMC's conveyor belt, things looked very rosy indeed. Soon after, Triumph was taken over by Leyland in 1961 — then a bus and truck maker that could trace its ancestry back to steam-lorry production in the 1870s. Daimler had snapped up Lanchester way back in 1930 (it made the last Lanchester in 1955), and dignified Daimler went to sporting Jaguar in 1961.

In the 1960s the BL story began in earnest. In 1966, BMC took over Jaguar-Daimler, changing its own name in the process to British Motor Holdings. That lasted less than two years, when a merger with Leyland Motors, which had bought Rover in 1967, gave us the British Leyland Motor Corporation. And in 1975 BLMC was . . . nationalised.

In the last five years, it has gone through a series of nominal metamorphoses, to emerge today as BL Ltd, with less than 18% of the British car market.

It is perhaps ironic that the first Japanese Hondas to be built under licence in Britain are due to roll off BL's conveyor belts next year, half a century after the Japanese took out a licence to build an Austin 7 as a car called . . . the Datson.



THE RELIANT Motor Company was formed in 1934 on three-wheelers — a real alternative for the man who would run a

motorcycle and sidecar. It spread four-wheel wings in 1961, building the Sabre sports car.

In 1964, the Scimitar was announced — a stylish, hatchback four-wheeler from the design studios of David Ogle, using a 3litre V6 Ford engine. Now in Mk3 form, and with a soft-top option (see page 27), it is a worthy flagship.

But, still, the three-wheeler is the bread-and-butter of Reliant, although in the 1980s it is rather too bread-and-margarine to have mass appeal. It is a decidedly odd car . . . and that very fact has been Reliant's strength, for it has few rivals for its market.

The question is, as other companies' four-wheelers become more economical for the fuel-conscious 1980s, does anybody really want the three-wheeler market?

Better things are electric?

Perhaps it isn't only BL that has sales problems, not just Britain or Europe or the West, perhaps the whole car-producing world is on the edge of a precipice. ROY HAYNES, former Ford and British Leyland director and now director of Electraction and designer of its first car, thinks that now is the time for something *completely* different. And his future doesn't hold out hope for even Datsun . . .

THE AUTO INDUSTRY stands poised at the beginning of the 1980s, plagued by almost unbelievable troubles — many the result of the first wave of reactions to the energy crunch, many self-inflicted. In addition, the industry is caught in an escalating 'cost-price squeeze' that has led some companies into dangerous areas of investment from which they may never recover.

Some corporations, notably GM and Ford have been able to anticipate the effect of these pressures and to take evasive action in time to minimise at least the effect of energy problems. Others, notably Chrysler and BL, are caught in a maelstrom from which they may not emerge in their present form.

Never before has the motor industry been forced to grapple with so many problems. In the past, it has relied on a fairly tidy process of 'product planning', largely based on what management referred to as 'evolutionary product creation' — always building future cars on the lessons of the past. Seldom was a completely new car ever devised, although occasionally one new breakaway model would rip its way through the sales charts.

However, if the technological battle now being waged and gathering momentum spells the death of the automobile industry as we know it, it will certainly not be the death of the motor car. Far from it: a whole new industry is about to be created — the electric-vehicle industry.

The power struggle

Control of a new electric-auto industry might well pass, at least financially, into the hands of those companies that are currently investing heavily in this new technology, such as General Electric (US), Lucas and Exxon. It is likely also that the structure of the industry will change dramatically and become merely a 'marketing operation', controlling only retail sales and distribution, finance and marketing; vehicle assembly will be left to supplier-type companies.

The new-look motor industry would be vastly different from the sprawling mass of the existing industry, with labour concentra-

tions in Detroit, Birmingham, Cologne, Tokyo. It would be a small corporate group, with massive financial strength, controlling the technological advancement of the industry and engaging only in assembly operations by way of worldwide licensing agreements. Almost every market of significance would assemble its own vehicles: there would be no dragging of cars from one side of the world to the other.

The promise of all this must inevitably place current investment programmes at risk. Few of the cars now in production, or about to enter the market, will survive the 1990s. With the price of petrol likely to escalate to more than £5 a gallon by 1985 — or even £10 by 1990 — a very serious situation will arise if nothing is done to provide a 'transitional' electric vehicle.

What does this mean? Well, with no 'advanced' battery yet in production, one must envisage initially an interim vehicle with the option of electric or internal-combustion-engine drive — an 'EV-IC' — and at present discussion centres around the possibility of an internal-combustion power pack of perhaps 1000cc.

An EV-IC would be a brand-new approach to the large-package, ultra-lightweight small car and would render all other small cars immediately obsolete. The Ford Fiesta, BL Mini/Metro, Renault 5 — you name it, all would be gone by 1990 and in their place would be this middle-class car, about the size of a BL Ital or Vauxhall Cavalier, available in either electric or petrol-engined form.

A great deal of preliminary planning and market analysis has already been undertaken for an EV-IC with the Precinct urban electric car produced by Electraction. Aimed at satisfying Mr Average's daily motoring needs, this electric-only car can travel 60 miles at speeds of up to 45mph.

The electric version of a volume-produced EV-IC would be driven by a small, cheap-to-produce (and already existing) 'pancake' motor at each of its four wheels. The 'pancake' motor is virtually what it sounds like — two 'pancakes', stuck together, only one of which moves. By

comparison, the internal-combustion engine has many moving parts — pistons, con-rods, valve-gear, crankshafts and so on — and many auxiliaries, such as carburettors and exhaust.

If all these parts were to disappear overnight with the arrival of an electric car, the effect obviously would be traumatic. The hundreds of suppliers who make them should start now to consider the future: unless they do, most will be out of business within 10 years.

Electraction has always conceded, however, that to achieve success the electric car must win sales far beyond its immediate capability, and that to do so it must initially be integrated with a petrol-engined counterpart.

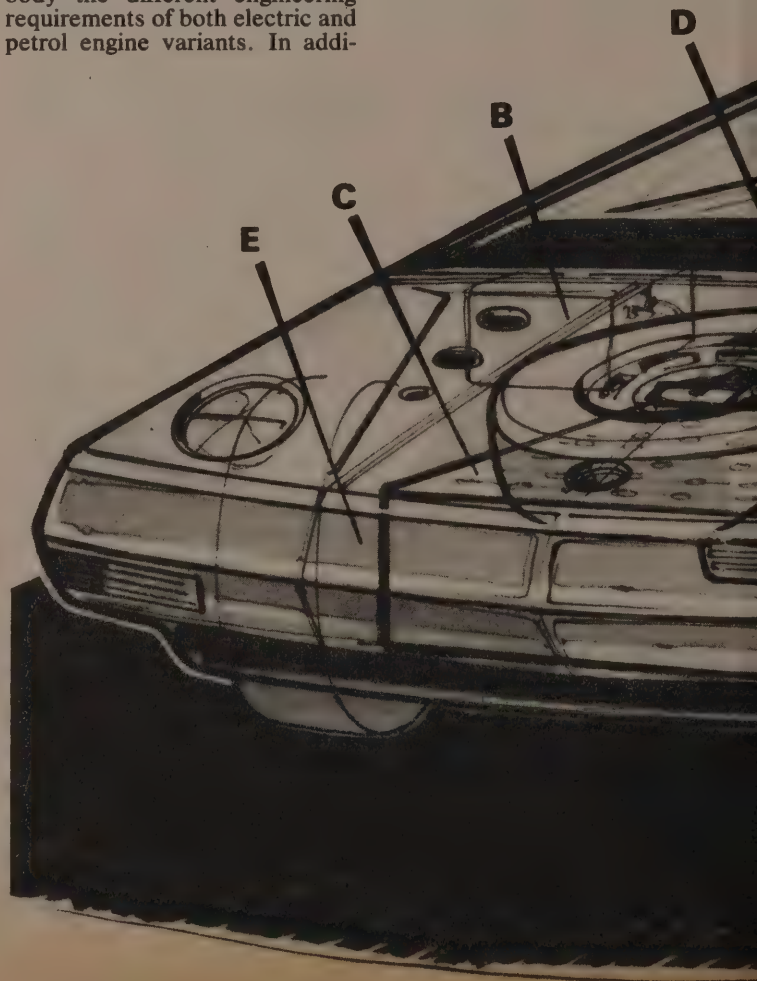
The car to win the West?

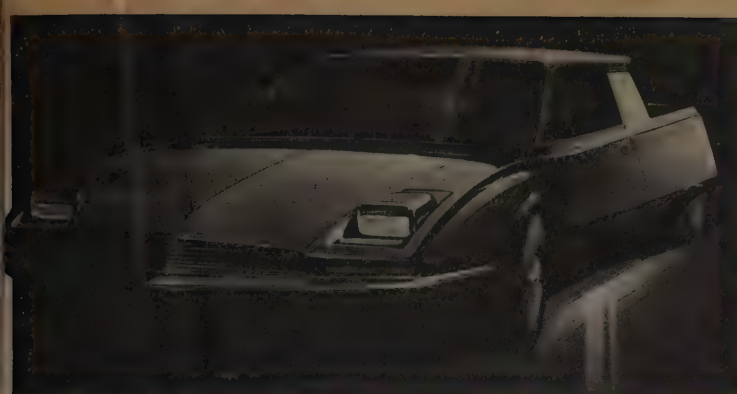
The EV-IC's objective is to accommodate within one basic body the different engineering requirements of both electric and petrol engine variants. In addi-

tion, a model range is contemplated that would create a wide marketing base — essential for any single-model car producer.

The likely EV-IC would feature a full range of normal accessories, but also a combustion heater, and a miniature petrol-powered air-conditioning unit. The battery block would be cassette-loaded, slid out on either side in two separate halves for inspection, servicing or replacement.

The performance of an electric-engined EV-IC would be compatible with today's average 'contained' road speeds — the 60 miles at 45mph of the Precinct, with ultimately a hoped-for range of 100 miles. Within this perfor-





Electrifying the motoring public, Roy Haynes would first woo buyers with his EV-IC car, left. To finance future all-electric models, this car would be offered with the option of electric or internal combustion engines as an ultra-lightweight 'World' car. Sales would help finance the 'Hybrid EV', below, a latter-day large car powered by electric motors in each wheel and a 1000cc piston engine. It could be in production by 1986



performance, there falls a wide range of daily activities; and if petrol does in fact rise to £5 a gallon by 1985, a great many people will be glad to rely on electric power over short distances. (Electraction carried out its first road tests in 1978, and found that the cost of electricity consumed was 1.3p per mile; at that time, *DRIVE's* Index of Motoring Expenditure was showing an average petrol-cost-per-mile of just over 3p).

Many service functions can adequately be served by a vehicle with such performance, and a key factor to its acceptability would be its cost. Electric cars produced in isolation have never been cost-competitive, but by 'piggy-

backing' with the petrol-engine variant, the EV-IC would get a volume-production bonus. Similarly for servicing, the close relationship with the petrol-engined product would generate consumer confidence and reduce the cost of dealer servicing, sales and other overheads.

There can be no doubt, however, that an EV-IC is only a transitional vehicle; the aim has to be the electric-only car, and the only major technical obstacle is... yes, the battery.

Few can doubt that, once an effective breakthrough has been made in the battery field, almost all resistance to electric vehicles would diminish and the product

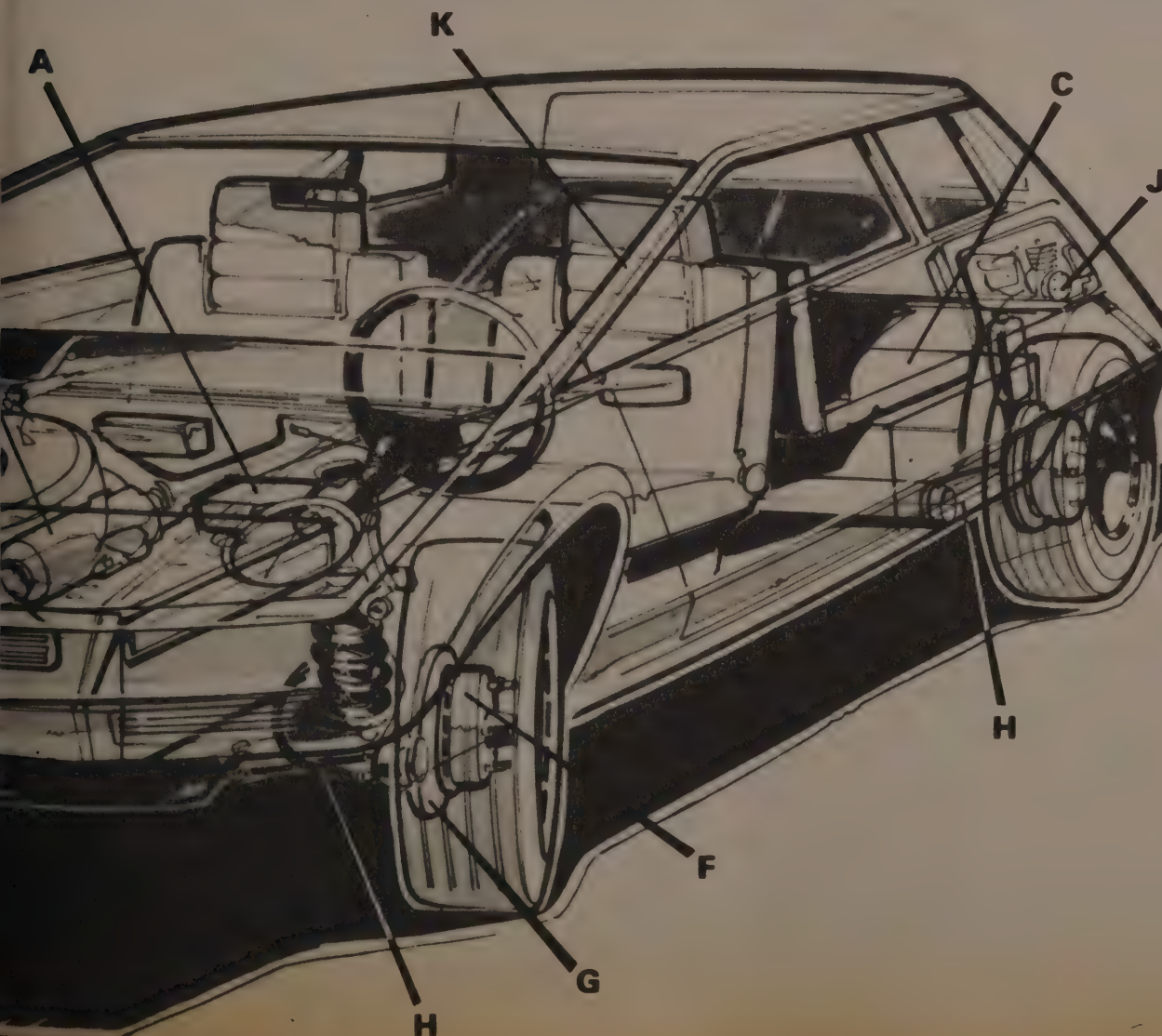
could challenge to lead the market. The advanced EV will be successful because of its relatively low capital cost; it will be cheap to produce, have performance equivalent to current conventional cars and longer life.

Once the advanced EV has a firm grip on the market, its designers can get to work and develop more-exciting model variants. The initial era of 'utility' would end, and today's mania for hatchbacks and architectural boxes would give way to a more-exciting visual and sculptural period of design. Cars originally were created just as much for pleasure as for utility, and, if we are to have more leisure time, the

fact should be reflected in concepts for EVs.

A reprieve for the large car would also be possible in the form of a combined electric-and-petrol-engined vehicle, for there would be introduced an element of flexibility outside the constraints of battery-charging or transplanting. At first sight, this would not appear a cheap solution to the problem of the big car, but with the development of new vehicle-building technology, and the possibility that the small standard engine of the EV-IC range would suit the hybrid, such a vehicle could achieve a measure of success.

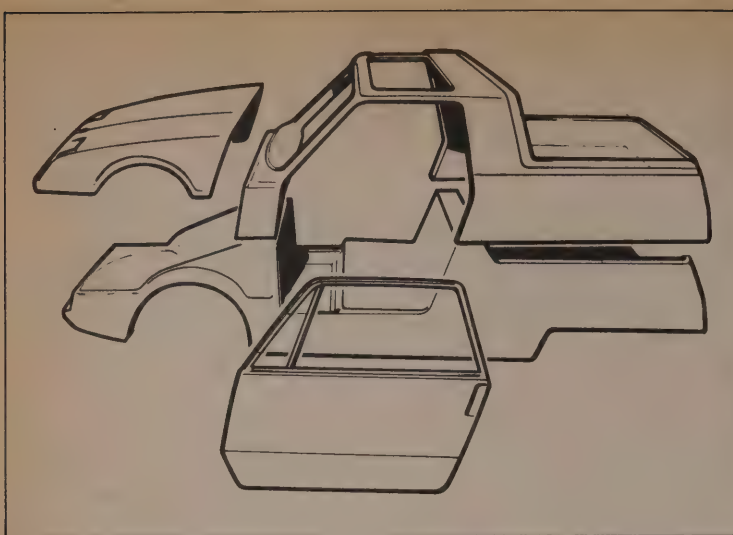
Clearly, if the hybrid is pow-



After successful sales of the cars above, Roy Haynes could launch his 'Advanced EV' for 1990.

This all-electric car would feature —

- A** Micro-chip brain to judge optimum switching between four-wheel drive for poor road conditions and acceleration, and two-wheel drive for economical cruising.
- B** Vehicle battery charger.
- C** Battery can be slid out for servicing, recharging or replacement.
- D** Combustion heater.
- E** Low-wind-resistance bodywork.
- F** Pancake-shaped electric motor in each wheel.
- G** Disc brakes.
- H** Independent suspension.
- J** Air conditioning unit.
- K** Lightweight monomer plastics body with weld-free steel reinforcement.



Bodywork of the EV-IC would be a cheaply made, easily repaired plastics

ered by a 1000cc engine in conjunction with a four-wheel-drive, pancake-motor system, a performance roughly equal to that of current cars can be expected, and acceleration could be better.

Who would build it?

The large-scale operations of the big motor manufacturers have

begun to come under serious review, and the likely future trend is for products to be assembled — or, ideally, manufactured — with a high local-labour content. An EV-IC programme, with its concept of a 'world car', could help achieve this goal, a key factor being the use of a mainly cast-plastics body with a very limited



Electraction's original urban electric car, the Precinct

amount of steel reinforcement.

The capital cost of tooling for this form of construction allows the idea of leasing tools to vehicle assemblers worldwide, who would pay for them from earnings over a period.

Success in the motor-manufacturing business, however, still rests largely with the distribution outlets. But it follows that, by integrating the EV with regular IC-engined variants, major marketing obstacles could be met head-on. And, if the model range and specification is keenly judged, each model can be balanced to suit a particular market. In the case of the EV, this would be especially important, as it would lead to establishment of consumer confidence in the car without which it couldn't survive.

Who would buy it?

While the somewhat-greedy appetites of the Western world are being cut back in their demands on the earth's resources, there remain vast areas of the world — especially in central south-east Asia, where more than 2000million people live — that represent enormous new markets for the motor car. In a low-power, petrol-engined form, the EV-IC would be ideal, espe-

cially if made available with four-wheel drive.

Many Third World countries also have good prospects for solar-electric and hydro-electric power generation, making the development of electrical rural transport and low-horsepower electric agricultural vehicles a viable proposition.

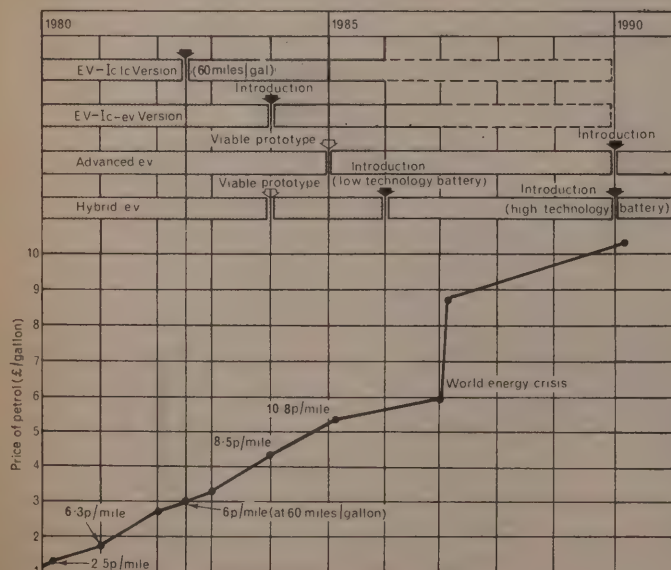
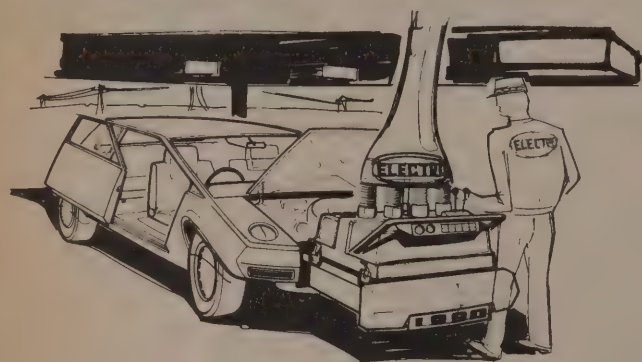
Who would pay for it?

Moral obligation and a sense of environmental responsibility could build a future for the electric vehicle; and yet it would seem that the existing petrol-engine-based motor industry is doing little to re-orient itself. In some cases, it is hostile to the EV.

A new electric-vehicle industry, however, does not need the existing motor industry. Indeed, it would be impractical to graft the new on to the old, with all the latter's problems and financial burdens. It therefore follows that any government financial participation in the electric vehicle industry should be strictly in the form of commercial loans, to assist product development.

The fact remains, however, that most large motor companies are hesitating beyond the point of no return. Only GM has clearly indicated that, by 1985, 25% of all

Electraction's Super Golf — now planned as a high-volume model

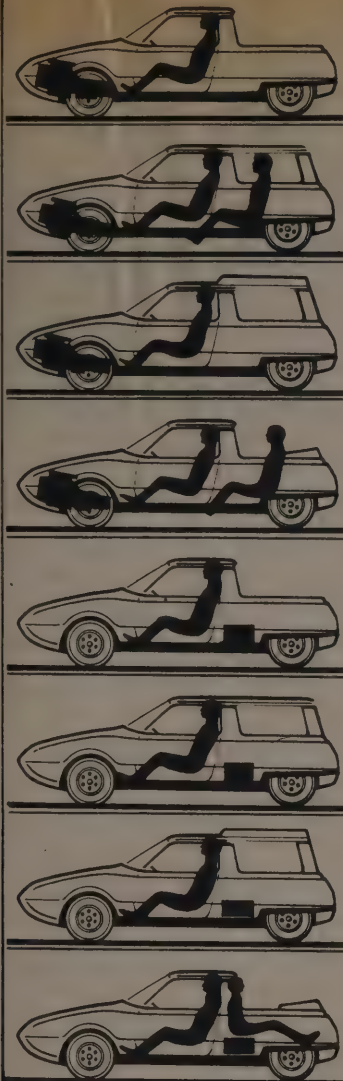


Graph shows Electraction's expectations of the rise in price of petrol — culminating in the £10 gallon by 1990. Strips across the top of the graph show Electraction's anticipation of the speed with which the new forms of vehicle would have to be introduced



Shock horror!

AA Chief Engineer MARCUS JACOBSON, too, is an ex-BL man: he was senior research and development engineer in the 1950s. But, unlike Roy Haynes, he hasn't 'gone electric' . . .



Variations of the EV-IC World car body

its passenger cars will be electric. The rest of the industry seems caught in suicidal apathy — doing nothing until it has to.

It is futile to wait for the price of petrol to rise beyond all reasonable levels before considering the interim EV-IC that would pave the way for a low-technology electric car — with limited range, perhaps, but at low cost. Furthermore, an EV-IC design aligns with the decision to build the 'ultimate' petrol-powered, ultra-lightweight, large-package car, and provide the industry with something that will go on into the distant future.

It is going to take until 1985 to solve the basic problems of the advanced electric car, and, with this achieved, a further five years will be needed to get into production and establish the infrastructure dealerships, servicing, repairs — to support the vehicle in public use. But man got to the moon in half the 'allotted' time . . . and by 1990, the cost of petrol may be prohibitive for anything except the EV-IC vehicle.

Suddenly, it is 1990. Because the time for action is now.

IT IS NOT surprising that, every now and again, some designer or other comes up with the idea that the only way to solve the energy problem is quickly to embrace electrical propulsion and scrap the well-tryed internal-combustion engine. The arguments usually leave out all those facts which contradict their so eloquently-put points of view.

A sticker I saw in a car in California sums it up beautifully: 'I have no energy problems — I am all-electric'. But where did the electricity come from? An oil-fuelled power-station? Of course, it might have been produced by a steam-raising plant — nuclear- or coal-powered . . . in which only about 30% of the fuel-energy is converted into electricity. And losses in transmission and conversion mean that only about a quarter of the thermal energy is available for charging batteries.

Current batteries operate on a very simple basis, and only 80-85% of the stored energy is recoverable for useful work.

There are experimental superior batteries undergoing development, but none has reached the stage where it can be manufactured in quantity. In some, the material is too expensive or in short supply; others work only at temperatures well above normal air temperatures, give off poisonous fumes during charging or discharging or when accidentally damaged, or run down very quickly. All batteries discharge with time, even though they are not doing any work.

The protagonist of the electric car will of course remind you that all this could change overnight, once a low-cost, low-weight, high-power density battery has been invented. True, but I could be a millionaire tomorrow . . . if only I could win several football pools. It's a big 'if'.

The principal drawbacks of the electric car compared with internal combustion have not changed over the years. Nor are these new problems, for battery-electric propulsion is 38 years older than the petrol-driven motor car. In 1837, Robert Davidson of Aberdeen built a carriage propelled by an electric motor, powered by a crude iron/zinc battery; by 1881, Paris had a fleet of lead/acid-battery-powered buses.

Foremost among the disadvan-

tages are weight and bulk; then there is the cost and short life of the batteries — battery life of two to three years compares unfavourably with the eight or 12-year life of a car's engine; there is the short range and low speed of electric cars — 50 to 60 miles between recharging or exchanging batteries, and a top speed of 45-60mph. Their acceleration is nothing to write home about, either.

What then are the electric car's attractions?

It can be silent — but modern petrol-driven cars will soon compete in this area. It is cheap to run on off-peak-rated electricity — but these tariffs are likely to evaporate should demand for electric cars really get under way. But if every one of the 14million private motor cars in use in the UK were to convert to electric propulsion, we would need to double our electric-power generating capacity and probably even more.

The thorny question is: Is there a need, a market and money to pay for those new-concept vehicles? It is all very well to appeal to the West's 'moral obligation' to finance electric vehicles for the benefit of the Third World. But, when it is difficult enough to get taxpayers to agree to pay for something to benefit their own local community, who will volunteer to forego a few hot meals a month to enable a family in South East Asia to achieve local mobility? As for lending people there the tools to manufacture these vehicles — no doubt to export them to the Western World — how about trying to canvass for that at meetings of out-of-work car workers in the Midlands?

There is no harm in condemn-

ing the motor industry for not doing enough, but the reality is that there is work going on in every major vehicle manufacturer's research department — just in case the ideal battery can be evolved within a decade or two, and just in case there will be a surplus electricity output of nuclear power stations. But volume production is a long way off, and even GM has been known to make rash promises and unwise decisions . . .

Electric and hybrid cars have been shown from time to time by GM, Ford, Volkswagen, Toyota, Renault, Fiat, Datsun, Chrysler and so on. I have even ridden in a Polish-produced electric runabout in Warsaw.


There is likely to be an increase of electric vehicles for strictly limited applications in densely populated urban areas — such vehicles as the silent-hour city delivery truck, even to the commuter bus and the golf club and pleasure-ground and the city runabout. It is also worth mentioning that Britain is already the World's largest producer of electric vehicles — around 50,000 in all. We call them milk floats . . .

There is, however, plenty of life left in the internal-combustion engine. Hybrid systems in which the small petrol engine tops up the battery charge have been evolved and demonstrated by many eminent large-scale concerns in the US, Japan and Europe, but none has proved itself technically or economically.

The sad fact is that the modern internal combustion engine is hard to beat for durability, versatility, low weight, low cost of manufacture and low maintenance, and it is getting more fuel-efficient.

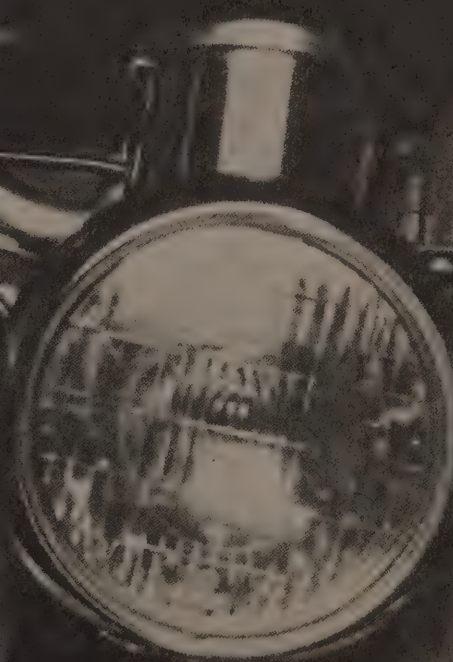
Enfield Automotive's electrification programme foundered in 1976





DR
AA 25p January-February

Stephen Bark
motorcycle
a moped.
what you
nearly
INSI
and
on



Live and learn... if you're lucky

This young motorcyclist learnt his lesson the hard way. Thousands of others have since lost all chance to learn. Who's falling down on the job of motorbike safety?

THE LAST time that DRIVE met Stephen Barkway, he was lucky to make it to the interview. Months earlier, aged 16, he had crashed on his moped and almost died from terrible injuries.

Since that night in 1974, nearly 3000 teenagers have been killed riding mopeds, scooters and motorcycles; another 60,000 have been seriously injured. And no improvement in the casualty figures is expected.

Meanwhile, thousands of parents go on telling themselves that the worst will never happen to their children . . . until the day when a policeman knocks at the front door. This year alone, that private tragedy will be enacted more than 10,000 times up and down Britain.

Successive governments and safety experts have tried to tackle the problem with policies of voluntary education, and have remained faithful to those policies in the face of continually horrific statistics.

Stephen Barkway's experience sums up the realities that are as fundamentally true today as they were six years ago, when he first climbed on to his 50mph moped. Just five weeks after receiving his provisional licence, and with not a lesson behind him, he hit the kerb and was sent flying. It was touch and go whether he would survive. He lost his spleen and a kidney, spent a week in hospital fighting for his life, then underwent 12 months of fortnightly medical checks before being pronounced completely recovered.

There has to be some irony in the fact that, today, at the age of 22, Stephen Barkway is PC 114 in the London Royal Parks' police. And that, although he drives a Mini, he is planning to return to two wheels — for economy reasons. 'Before I start riding again, though, I shall take a course of lessons to pass the test,' he says. 'I'm convinced that it's absolutely necessary . . .'

What has happened in six years — apart, that is, from Stephen's accident? Well, 16-year-olds are now restricted to 30mph-maximum mopeds . . . even if, at 17, still without a lesson or a full licence, they can hop on to a 100mph, 250cc machine. But there are new moves afoot: even as we go to press, Transport Minister Norman Fowler looks set to decree that provisional licences will not be renewed unless L-riders have taken at least a new 'primary test' on bike hand-

ling within three years, to be followed by the official DoT test. It is likely, too, that 17-year-old novice motorcyclists will be restricted to maximum-125cc machines, instead of 250cc bikes.

'Naive', Stephen Barkway calls it. 'The new licence plan is obviously designed to act as an *incentive* for youngsters to obtain tuition. But my personal view is that, at 16, no matter how much anyone encourages you, the chances are that it just won't enter your head to take lessons. It didn't with me when I was that age. As for the engine sizes, let's face it: a motorcyclist is just as likely to be killed at 60mph as at 90mph. In any case,' says Stephen, 'most accidents happen at fairly low speeds.'

Some experts have the same reservations. Ken Huddart and Dr Stanley Raymond, who respectively head the road-safety units of the Greater London Council and Salford University, Lancashire, firmly believe that legislation is the only way to ensure that all learner-motorcyclists receive qualified training before going on the road. Organisations such as the Institute of Road Safety Officers and the Royal Society for the Prevention of Accidents, on the other hand, retain the belief that compulsion should be introduced only if it's shown that the present tactic of encouraging youngsters to seek instruction voluntarily doesn't succeed.

A recent AA survey, however, involving 600 motorcyclists, of which more than half were under 21, showed that two-thirds would welcome compulsory professional tuition. This, despite the fact that only one in five claimed to have been properly trained.

The government, clearly, is determined to avoid legislation, and there seems little chance that any administration will ever adopt the recommendation of last winter's government advisory committee that compulsion should be introduced by 1984 if the number of novices joining training courses is still less than 75%.

What are the chances of that target being met? Well, last year the two national schemes — the Royal Automobile Club/Auto Cycle Union courses and the Star Rider Scheme — between them pulled in more than 50,000 learners. But that was just 15% of all motorcycle

continued bottom of page 42

Open wide, say 'aah...'

IMPRESSIVE, always, to see those sparkling Yankee limos swishing through automatic-opening gates and garage doors in the made-for-telly films that flood from the US. A blink of a 'magic eye' inside a mile-long Caddy, Ford or Buick, and gates and doors swing back, silently, steadily. No one in the States, it would seem, ever steps out of an air-conditioned auto to fumble with keys or yank on a handle...

In real life, apparently, it's much the same. In America, most new homes costing £40,000 or more come equipped as a matter of course with automatic door-openers; there's also said to be a growing demand for them on the Continent and in Scandinavia. But, in Britain — well, business is only steady, with some 70,000 units installed and every new convert to automatic door-opening doing his PR bit on the street where he lives. Instal an auto garage door, say the market-

eers, and you'll never want to live without it... or stop being the envy of your friends and your neighbours.

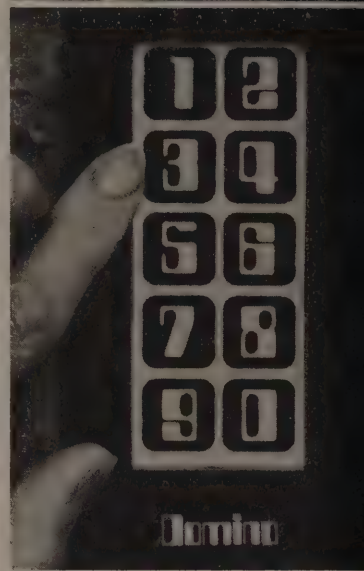
Of course, automatic door-openers are not new. Some systems have been around for years, complete with oily, stretchy, clanky chain-driven lift mechanisms and motors the size of an attic water tank. Among modern imports — inevitably, it's the Americans who have demanded, and got, better, smaller, cleaner, quieter door-opening gear — the neat Liftboy 850 radio-controlled unit has emerged as a pace-setter, and DRIVE welcomed an opportunity, through the darkest, coldest, wettest months of mid-summer, to live with one.

No automatic door-opener is especially cheap to buy and have installed (yes, it *could* be a DIY operation, but...), and it's to be expected that, in Gt Britain if not abroad, they're widely thought to be little more than playthings of

the *nouveau riche*. Government, unwilling to allow the use of private radio signals for 'trivial' purposes, early formed the idea that they were little more than unnecessary gimmicks, bought by people who couldn't be bothered to exert themselves.

Interesting, then, and a comment on the times in which we live, that the home and personal security value of automatic door-opening has changed official attitudes and, as a sales plus, most impressed customers. And, as we have experienced for ourselves, there is something to be said for opening the garage door, driving in and locking it behind you — all without the inconvenience, time-wasting and, especially for a woman at night, the slightly scary need to leave the security of the car and pad about in the dark.

Liftboy will fit almost every type of lift-up, tracked garage door, up to 18ft wide, and has a ¾in, one-piece aluminium screw-drive that eliminates the need for racking chains and cables. It's simply fitted — in about a morning, around £70 plus VAT — and is claimed to be trouble- and virtually maintenance-free. Its split capacitor 1/3hp electric motor, not much larger than a biscuit tin, hangs from the garage ceiling at



LIVE AND LEARN

novices taking to the road in 1979...

What may seem curious is that, as long ago as 1976, Whitehall was arguing that there was no evidence to associate the casualty rate with lack of tuition. Yet, two years later, it endorsed the Star Rider programme operated by the motorcycle industry. Amazingly, it has since done nothing to monitor the scheme to discover whether its pupils are less likely to be involved in accidents than those riders who don't undergo instruction — whether, in fact, safety schemes serve any useful purpose at all.

It's not that the answer is a foregone conclusion: when Salford University's road-safety research unit studied 22 RAC/ACU courses, between 1971 and 1976, it was shown that candidates were involved in proportionately *more* accidents in their first 5000 miles on the road than untrained novices.

This is not to imply, points out project-leader Dr Raymond, that proper tuition results in inferior riding ability. But it may be, he suggests, that, by providing an incentive and a degree of confidence, courses are encouraging poor riders to continue motorcycling instead of admitting that it is beyond their capabilities.

The most obvious criticism of the various training programmes — national and local — is that they're all different. The RAC/ACU courses, for instance, comprise 12 weekly 2hr get-togethers, in which tuition and lectures are given by



Star performer — a pupil goes through his paces

volunteers; the Star Rider course for beginners, in contrast, is a single 4hr session run by professional instructors. In addition, there are programmes run by the police, as in Cheshire (one 2hr lesson), and by local authorities such as Norfolk (two 2hr periods) and Cheshire again (six weekly 2hr classes).

Of the two national schemes, the RAC/ACU is felt by many to go on too long for teenagers, who are eager to get on the road and dispense with the formalities — probably why almost a third of the candidates who enrolled last year did not complete the course. In its favour, however, is the fact that its instructors are motorbike enthusiasts, with whom novices can readily identify. In addition, the programme is run on club lines, and

the final test is considered to be tougher than the DoT's.

The Star Rider 'bronze' scheme, on the other hand, which claims to give only basic tuition, is staffed by instructors who are not necessarily motorcycling fanatics. Its major shortcoming is that it relies on High Street dealers 'selling' the course to the youngsters. The idea is that the novice, when he buys his machine, will be persuaded to have it delivered to the nearest Star Rider training centre on the following Saturday, where he will be shown how to handle it safely.

When DRIVE random-picked a dozen moped and motorcycle shops around the country, however, and asked how many novices actually were attending the courses, it quickly became apparent that the facts fell short of the theory. Some dealers, like Graeme Chatham, of Edinburgh, won't sell a bike to a youngster unless he takes the course; others, like Charles Cope, of Dudley, who are prepared even to pay the training fee, find only one in 10 takers; yet another dealer admits that he is getting only one in 40 beginners to his local course.

Even when a dealer does sell a course with a bike, the problem isn't solved. Southampton dealer Peter Williams points out: 'Recently, I persuaded eight beginners to go for training. Five cried off during the week, so, on the Saturday, I transported three machines to the course. One customer failed to turn up, and I had to take the bike back with me and make a



Anthony Peagan

the far end of the polished-aluminium screw-drive track casing, and in operation uses about as much current as a hair-dryer.

Control is by an outside wall-mounted electronic digital panel (press your personal code of three figures), an inside key-switch or a hand-held radio transmitter kept inside the car — or all three, as on DRIVE's test unit. Simply press any one control and the door unlocks and opens or closes and locks, and an interior light, combined in the motor housing, switches on for 2-3min.

The outdoor digital panel is fun, and a £16-or-so extra: the more combinations of figures punched by a would-be intruder, guessing, the slower the switch reacts when and if the correct sequence is accidentally hit... which means that, frustrated by apparent non-success even with the true combination, the intruder will continue to punch numbers, confusing himself and ensuring that the door remains firmly locked and closed.

The solid state radio transmitter is about the size of a packet of 20 cigarettes, with a short trailing aerial. Allow the aerial to dangle inside the windscreen (perhaps from a pocket in the driver's sunvisor) and press its single button, and, via its individually-coded

radio signal, it will trigger the opening and closing mechanism. There's enough power to operate a door from about 150ft, which means that the garage can be fully open by the time that you arrive in your home driveway.

Safety features include automatic reversing — the door will reverse its direction of travel should it meet an obstacle when closing — and there's a provision for simple manual operation in the event of a power cut.

Supply and installation of the DRIVE test unit was swift and efficient (it's always good news when an independent installation engineer waxes lyrical about the hardware he's fitting), and to date Liftboy has worked hard, with a rumble and a thunk, to impress itself on us as an indispensable family friend.

The US-made Liftboy unit and VHF portable transmitter costs £244 plus VAT and is available from sole UK distributors Lift Boy Ltd, 16a Marlborough Road, London N22 4NN, tel 01-881 0011. Have all the goodies and add installation, and there'll not be much left out of £400, which sounds a lot. But, really, isn't the cost chicken-feed when buying a house over £40,000... and isn't Liftboy a great plus to have when you're selling?

special journey to the youngster's home. Then, would you believe, the two novices who finally underwent instruction both fell off their bikes on their way home!

Colin Dean, chairman of the Institute of Road Safety Officers, sums up: 'The various schemes have *different* aims and ambitions, *different* approaches, and *different* administrations. Inevitably, a lot of time is wasted on administration. Indeed, things have become so complicated that we're all losing sight of what we're supposed to be here for.

'There should be *one* administration, *one* set of rules, and *one* training scheme.'

That policy could perhaps resolve other grey areas, too. Take the 1974 Road Traffic Act, which put the statutory responsibility for road safety on local authorities: in London alone, DRIVE found five councils — Tower Hamlets, Kensington/Chelsea, Ealing, Richmond and Lewisham — that neither run nor have any motorcycle training course in their areas. Several county councils, by contrast, have made motorcycle instruction a key priority; others run courses, but with limited facilities; some have courses that run for only part of the year.

There is also concern that existing training schemes do not fulfil what many experts consider should be their most vital function — creating the right *attitude* among young motorcyclists. The Schools Traffic Education Programme, which also administers the Star Rider programme, is grappling with the prob-

lem: to date, road safety has been adopted as a classroom subject by 1755 secondary schools — slightly more than 25% of the total — but it's a slow process, with resistance from many headmasters.

Guidance on moped and motorbike maintenance, covered in the RAC/ACU programme but not in the basic Star Rider course, is another important factor — if only because, according to the AA survey, 72% of riders do their own. A police instructor to whom DRIVE spoke claims: 'Half the youngsters with bikes whom I stop on the highway are riding around with a serious braking fault, or a slack chain which, if it came off, could cause a wheel to lock up.'

The problem of teenage motorcycling is not so much that the official attitude is wrong but that there is no official attitude. And there won't be, until government carries out comprehensive surveys of existing training courses, isolates the deficiencies and takes action to remedy shortcomings. Only then is it likely to be shown whether training is the answer.

If it is the solution, then it has to be impressed on young motorcyclists with more conviction than, say, a motorcycle salesman can muster in five minutes' after-sales chatter.

Teenagers *know* that they are too young to die. But the tragedy is that, in the next 12 months, when policemen knock on doors all over Britain, hundreds of youngsters won't be there to find out that they were wrong. ROY JOHNSTONE

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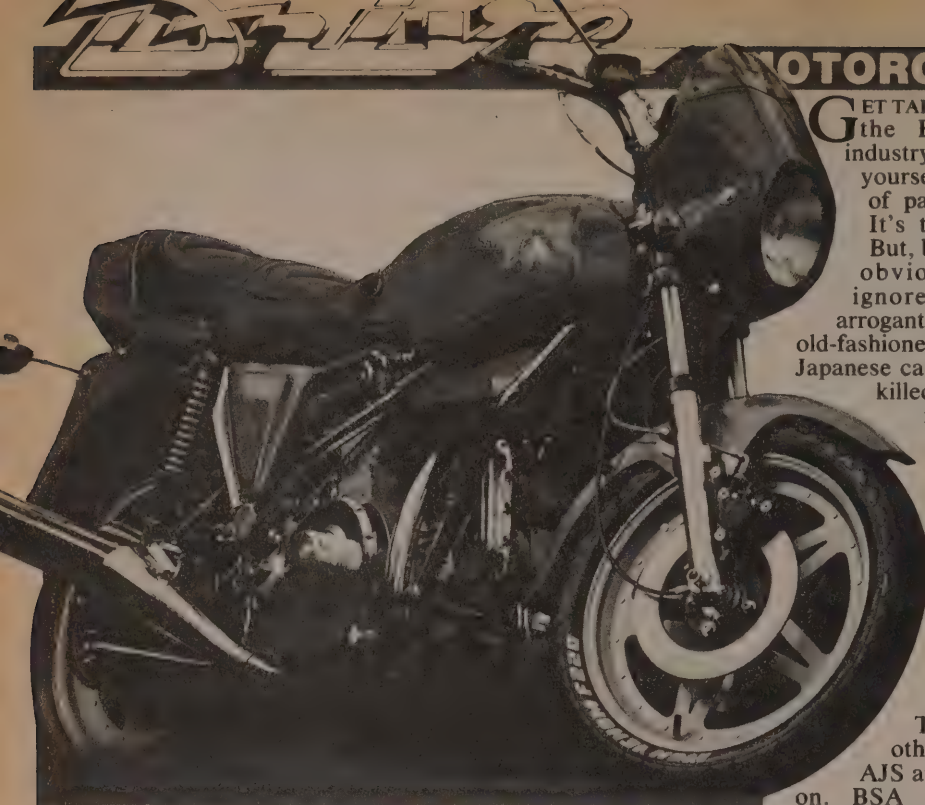
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MOTORCYCLE TESTS

GET TALKING, in a bar, about the British motorcycle industry, and you could get yourself, fast, into all sorts of passionate arguments. It's that sort of subject. But, back in the 1950s, the obvious problem was ignored: every factory arrogantly turned out loads of old-fashioned machines, until the Japanese came along and simply killed them off. And the

irony, which will keep the arguments raging until closing time, is that the whole thing proved to be an outrageous cameo of what happened throughout Britain's industry.

There was one survivor — Triumph — though other names, such as AJS and Cotton, struggled on. BSA changed its shape beyond recognition, and new names, such as Saracen and Silk, flitted briefly across the scene, while some foreign-made, British-designed hybrids such as

the Barron still confuse even the motorcycle experts.

Various new British bikes have been planned, but only one has achieved pre-production status, and that is the Hesketh.

DRIVE borrowed something from the old and the new makers. One is the direct descendent of a design going back almost half a century; the other is brand-new.

Hesketh V1000

Price to be announced

Britain's bikers need *something* to boast about — something of quality that will make other motorcycling nations sit up and take notice; something that will convince them we are yet a force to be reckoned with. The machine has to be characteristically British. If it resembles anything from Japan, it won't do . . .

Vague rumours of a new bike from Lord Hesketh's car-racing stables began to trickle out of Northamptonshire, 18 months ago; then, at the start of 1980, the promise of a new, big roadster took material form. When it was finally launched in pre-production form it was everything British motorcyclists had wanted. The engine is a 90° double-

Best of British

Triumph T140E Bonneville Price £1560

You know what a Morgan sports car is like: harsh suspension, draughts, noise, poor waterproofing and so on — a strangely old-fashioned, uncomfortable and impractical motor car to be produced in the 1980s. At least, that's what it seems to me — though Morgans do give enthusiasts a degree of driver satisfaction that few can match.

So it is with the Triumph Bon-

neville motorcycle: by any reasonable, modern standards, the machine is hopelessly antiquated. The forthcoming electric starter will make firing up (and stalling!) less of a chore, but its suspension is uncomfortably stiff; braking is hard work; the controls are heavy; the engine is intolerant of high speeds; and maintenance demands are high.

Cynics may tell you that the amount of pleasure to be gained from a modern Bonneville is proportional to your masochistic tendencies. When a couple of younger riders took our machine for a spin, they wondered where the legend had gone; but even they commented on the perfect handling of the machine, its light weight, economical use of fuel, amazing simplicity and its 'feel'.

More-experienced motorcyclists always returned from a ride with broad grins on their faces. 'Bit down on power', they would say; or 'Brakes are a bit off'. But they would follow up with 'It's all there, though, isn't it? Feels . . . you know, sort of . . . well, right.'

There lies the secret of this last of the old Brit bikes: the first Bonneville of 1958 weighed 406lb,

HOW THEY MEASURE UP	TRIUMPH T140E BONNEVILLE	HESKETH V1000
Engine	Air-cooled ohv 4-stroke twin	Air-cooled dohc 4-stroke V twin
Capacity	748cc	992cc
Output	54bhp at 6500rpm	86bhp at 6500rpm
Transmission	5-speed exposed chain	5-speed exposed chain
Kerbweight	440lb	550lb
Seat height	30in	31in
Max width	29in (handlebars)	26in (handlebars)
Max length	70in	75in
Fuel tank	4gal/200 miles +4pt reserve	5gal/250 miles +4pt reserve
Mpg — overall	59mpg	* 50mpg
quiet use	69mpg	no information
suburban use	58mpg	no information
brisk use	52mpg	no information
hard use	40mpg	no information
Performance — max (upright)	103mph	** 120mph
0-50mph	4.2sec	not available
30-50mph (top)	5.8sec	not available
Warranty	6 months parts and labour	no information

*maker's claim only **estimate only — maker claims 140mph with prone rider in racing leathers.

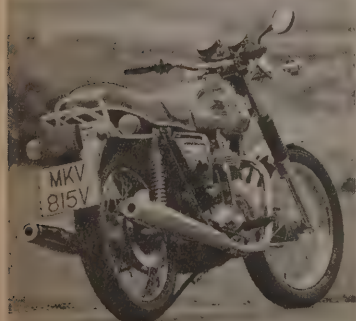
which is not far removed from the 1980 model's 440lb, while power has increased from a claimed 46bhp to the current 54bhp. The result is an unusually light and nimble big motorcycle, and it is probably this that gives the machine its fine handling qualities. Just compare this weight to the 575lb Yamaha XS750 tested in July-August DRIVE: 135lb makes a lot of difference!

As kick-starts go, starting the Bonneville is easy, thanks principally to the Lucas RITA electronic ignition which gives a spark of power at kick-starting engine speed. Tick-over is reliable at a mere 600rpm, although use of the choke on cold mornings is prolonged and sometimes tricky

because of the very weak mixture (needed to comply with American emission laws).

The massive silencers do their job well, keeping down exhaust noise to a modest rumble, even under hard acceleration; mechanical clatter from the old long-pushrod twin, however, is louder than many riders will like.

Sadly, for a model that was once the many-times-crowned king of sports racers, the Bonneville is now at its best in town, suburbia and around country lanes, where the light handling, excellent engine tractability and slick gearshift can be put to use. Around the test track, it was plainly hard-pushed to maintain a steady 80mph: engine vibration



overhead camshaft V twin — chosen because such a layout lends itself to the very best traditions of classic British motorcycles such as the Brough Superior and Vincent; it is narrow, vibration-free, and looks good.

The very best possible handling and high-speed stability has been ensured by using an immensely stiff frame of Reynolds' famous 531 lightweight tubing — the same as racing bicyclists use.

With these two priorities sorted out, the rest of the motorcycle has been assembled using as many British parts as possible — fabricated alloy wheels from Astralite, electrics from Lucas, carburetors from Amal, rear suspension from Girling, tyres from Avon, and so on. So far has the British industry declined, however, that instruments and switchgear had to come from Japan, tele-forks and brakes from Italy, and the headlamp from W Germany.

The initial design stages were difficult beyond Hesketh's imagination, until some expert motorcycle engineers were brought in, including stylist John Mockett, who wisely decided to create a shape that looked as if it had matured that way over a long period of time.

An orthodox type of machine was chosen because the buying public is notoriously antagonistic towards radical designs: this bike *has* to make money. Even so, comparatively new features are built in. The most important include a clever frame and rear-

suspension arrangement that holds the rear drive-chain under constant and unvarying tension, to lengthen chain life and reduce transmission backlash; and there's a fully floating rear brake, which means that, unlike most roadsters', the Hesketh's braking does not upset its suspension. This is not for comfort: locked-up suspension causes rear wheel 'skittering' and premature wheel locking.

The hardest problem of the Hesketh's birth, however, has yet to be solved: the transition from the hand construction of prototype and pre-production models to the assembly-line production of bikes for sale. At the time of writing, a suitable company was in the process of being chosen from the 12 short-listed.

It has to be said that our test was conducted on one of these pre-production models, so we can't stand up and swear that the bike you'll be able to buy will be *quite* the same thing . . .

Hesketh's main aim has been to produce a long-legged grand tourer capable of effortless and comfortable high mileages, so the engine develops its power at much lower revs than anything remotely comparable from Japan. Overall gearing is much higher, too: top gear, for instance, is 3.8:1, which means that, at 100mph, the engine 'idles' over at a mere 5000rpm, smack on maximum torque development.

At low engine speeds, the machine pulled like a tractor, and



with the smoothness peculiar to big V-twins. The exhaust note is deep but slightly flat, and an obviously immensely heavy fly-wheel smooths out combustion pulses at speeds that would have other engines stalling. Acceleration lacks the whip-crack wrench of modern fours, but is quite enough to make the dual seat's mid-way backstop necessary.

Long-term comfort is very apparent: there's no vibration at any normal speeds, the suspension feels well sprung and firmly damped, and the riding position is sportingly comfortable in a rather BMW-ish style.

The 100mph maximum of our test bike — Hesketh is aiming at 140mph — was attained without the slightest hesitation. High-speed stability was perfect and handling is satisfyingly neutral, although, at very low speeds, the steering feels a little heavy and

slow, probably because of the long wheelbase.

Gear changing is a pleasure, thanks principally to the super-light hydraulic clutch, the light gear-pedal movement and the absence of transmission back-lash.

Hesketh is claiming a power development of 86bhp at the crankshaft for the final product. In practical road-going terms, this will probably approximate to a top speed of 130mph and around 77bhp at the rear wheel. More speed would be unusable, and more power would increase fuel consumption to well above the projected 50mpg average. It is anticipated that the weight of the 550lb fully tanked-up prototype will drop by approximately 25lb on the production models.

The finish and engineering quality on the model ridden was superb, and, if Hesketh can hold this on the factory conveyor belt, it will be a big selling point.

It's hard to justify this as a test report; our trials took place on a handbuilt special. However, if the Hesketh does achieve full production status in the planned two years, there is little doubt that it will be a prestige motorcycle.

Whether or not the company can hold down the price to the sub-£4000 tag for which it is aiming is a matter of conjecture. In any event, it is extremely unlikely that annual production will ever exceed 2000.

But isn't it a magnificent gesture at this stage of the East-West transportation 'war'?

could damage ancillary parts. To the factory's credit, though, it appears to have overcome the terrible oil leaks; only slight dampening occurred around some joints.

It may be fair to claim that the Bonneville engine is entirely adequate up to the legal speed limit, but the pity is that this is exactly the point at which the test model's race-hard suspension begins to work properly. And, under 45mph, precious little movement takes place in the forks.

Gear-change movement is perfect — short actioned, crisp and light, it is a perfect example to the Japanese of how they should be improving their systems. Unfortunately, an extremely heavy clutch spoils things . . .

Both brakes are heavy, and neither is quite powerful enough to deal with the high speed of which the bike is capable. The rear brake is rather insensitive as well.

It's a sad comment on British industry that foreign ancillaries are used to complete the machine — French Veglia instruments, Japanese Yuasa battery — although every-

thing else appears to be British.

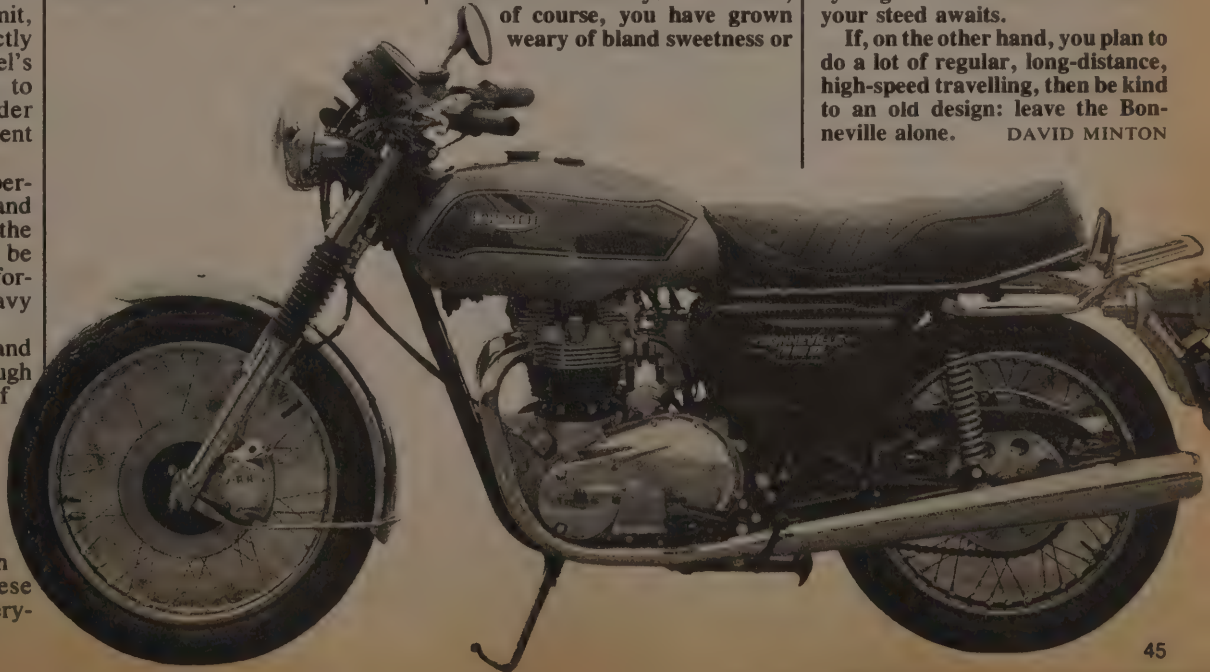
The paintwork certainly looked good, although chrome plating lacked the deep liquid-lustre of old, and detail work fell short of the painstaking care of Japanese models. But the quality of material used to build the Bonneville is

obviously top line, and, while it is difficult to come to hard-and-fast conclusions, it is unlikely that serious corrosion would set in.

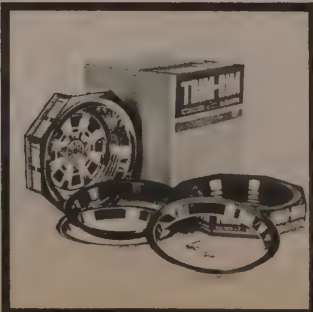
If you cut your motorcycling teeth on Japanese machines, then the Bonneville is not for you . . . unless, of course, you have grown weary of bland sweetness or

have lost patience with the rapidly worsening Japanese spares problems. If so, and you want to try an honest motorcycle — one that looks, sounds and feels like a *real* motorcycle for a change, and offers all-round economy motorcycling — then look no further: your steed awaits.

If, on the other hand, you plan to do a lot of regular, long-distance, high-speed travelling, then be kind to an old design: leave the Bonneville alone. DAVID MINTON



pay attention to your rear



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INSURANCE

Frenzy and neighbours

MAKING USE of the first sunny day for weeks, Arthur Hawkins decided to spend Sunday afternoon under his car. He didn't pretend to know much about what went on under a car's bonnet, but he did have enough sense to replace his oil filter and change the oil when needed. And it needed changing this Sunday.

As he struggled with the sump plug, his ever-helpful neighbour, accountant David Webb, sauntered up the driveway to offer his 'expert' advice. 'Your fan belt's

miles too loose,' he told Hawkins.

There was silence from underneath the car.

'Tell you what,' continued Webb, 'I'll fix it for you.' Without waiting for a reply he trotted home for his toolkit, and returned armed to the teeth.

'Oh well,' thought Hawkins, 'even he can't come to much harm with a simple job like that.'

Perhaps it would be more accurate to call Webb a born mechanic rather than a trained one, for no professional would have done what he did. Reaching for the required nut with one spanner, he rested another on top of the battery... There was a resounding 'woof' as the resulting sparks ignited the battery's hydrogen vapour — which in turn set off the petrol vapour from the carburettor. Arthur Hawkins scrambled out from underneath like a greyhound from its trap.

To their open-mouthed neighbours, the next minute must have seemed like a Laurel-and-Hardy sketch as surprise gave way to panic. But it wasn't so funny when they realised just how much damage the blaze had done.

Hawkins knew the danger of

antagonising neighbours, and put on a nonchalant air. 'Oh well,' he said, 'I guess that's why I have insurance. I'll put in a claim and get my money.'

He was right, but only to a point. His insurance company did pay up, but on reflection decided that, as David Webb had caused the fire through carelessness to the extent of being negligent, it was David who was ultimately responsible and should repay the company. And, after taking expert advice, David Webb decided to reach for his cheque book and sign away £200.

The AA's manager of motor insurance services, Mike Saunders, saw no way out for the helpful neighbour. 'Mr Hawkins' company is right in saying that the primary claim is against the amateur mechanic. He should have taken more care. I agree that Mr Hawkins' claim was, in the first instance, against the person who caused the damage, but that did not preclude him from claiming under his own policy as the risk of fire was covered.

'Generally speaking, whether an insurance company would choose to pursue its claim against

the man who negligently caused the damage would depend on whether he was worth, as they say, "powder and shot". However, if he was "a man of straw" with little financial means, it probably wouldn't bother.'

Had Mr Hawkins been the one responsible, it would have been a different story, for in the world of insurance you cannot be negligent towards yourself. An insurance company can only recover its costs from a third party — someone outside the contract of the insurance.

Adds Saunders: 'There is an obvious lesson in this story. If you get a friend to service or tinker with your car, it can cause problems, and clearly the person doing the work needs to be aware of them. However, I think that, in the majority of cases, insurance companies work on the basis that they will pay unless there has been a blatant disregard of the policy conditions.'

'Oh, and if Mr Webb decides to continue his good-neighbour activities, he'd better get cover with a personal liability policy for possible future negligence claims.'

ROBERT OXFORD



MY KIND OF PLACE

Cakes and ale

IT WASN'T so long ago that all you could find to eat in many pubs was a packet of crisps and a dubious-looking pork pie. How things have changed...

In fact, quite a revolution has been taking place in pub eating, as breweries and publicans alike have come to realise that good food can do wonders for profits.

The wind of change began blowing immediately after World War 2, thanks to the vision of the late Simon Coombe, then chairman of Watney, Coombe and Reid. Of the major brewery chiefs at the time, he alone had the foresight to institute a policy that was to spell the end of the pub's working-class image. After that, it was almost inevitable that catering would become an increasingly important priority.

Indeed, the Watneys organisation was one of the first to start the trend, culminating in the 1950s with its Schooner Inn steak-bar pubs.

'Since then,' says William Adkins, a former director of some of Watney's subsidiaries and now joint-chairman of the liaison committee between the industry and the AA, 'greater stress has been placed on providing attractive, wholesome fare that won't make a big dent in customers' wallets. Today, a lot of money is being spent

by publicans on kitchen modernisation.'

Unlike wine bars (featured in the May-June issue of DRIVE), pubs usually offer hot meals, though from a plain menu. But there are increasing signs of a more-imaginative, adventurous approach: some establishments are already offering lists of semi-gourmet dishes.

'Obviously, a number have run separate restaurants for years,' says Adkins, 'but the vogue at the moment is to integrate eating and drinking — and a lot of brainwork is going into this line of thinking to preserve the unique character of the English pub.'

'You can see the way things are going in city centres, especially at lunchtime. These pubs are luring more and more businessmen for four good reasons — the food, the price, the drink, and the atmosphere.'

DRIVE asked some of the AA's restaurant inspectors for their verdicts on three of the many pubs that they have recently visited for the AA guide, 999 Places to Eat Out for Around £5 (£1.95).

The Flask Tavern, Highgate West Hill, Highgate, London: its three bars offer appetising snacks in genuine olde-worlde surroundings. One of these, however, also provides a substantial three-course meal for about £3. This includes soup or grapefruit, and sauté kidneys, fried plaice, fried rock salmon, or cod and shrimp mornay. Dessert is a choice of ice creams or banana fritters, and wine is about 45p a glass.

The Duke William, Bailgate, Lincoln: a charming, 18th-century hostelry, serving homely lunches and a fairly extensive dinner menu. The three-course lunch includes home-made steak-and-kidney pie, grilled plaice and ham salad for around £3.50. The choice for dinner includes fried whitebait and grilled trout with almonds, or chicken à la crème for about £6, with coffee and wine extra.

The Dog and Gun, Lake Road, Keswick, Cumbria: for around £2.50, you can enjoy home-cooked ham with jacket potato

(salad extra). Another speciality of this genuine old coaching inn is beef curry and rice, interestingly garnished with tomato, peach and cucumber. Wine is served by the glass from about 60p.

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Summer going? Snows coming? It's not the end of the world — just the end of the year. And you don't have to go into hibernation. DRIVE asked two travel experts what their fancies turn to in autumn and winter. Their options range from under £20 to over £750.

WEEKEND GUESTS at the Royal Chase, Shaftesbury, jump for joy — with parachute — as part of their package break. Those searching for two days' relaxation at the Amberley Inn, Stroud, get the chance to go gliding or two days' free golf on the adjacent course. At the Metropole, Birmingham, they give you a shotgun to aid your winter breakaway.

The British hotel weekend has undergone a big change from the days when the only extra was an umbrella to help keep off the rain. You can still get a quiet stay, but guests are now swamped by activity breaks, from ghost-hunting to gastronomic feasts, as hundreds of hotels compete to fill empty rooms in economic hard times.

Your two-night stay can be as little as half the normal tariff, and a price-cutting battle is radically changing the stay-at-home-watching-telly habits of thousands of us. Some breaks with room and private bath, half-board and a Saturday-night dinner-dance cost no more than the ordinary return rail fare from the Midlands to London. And for little more, many will throw in the rail ticket, too.

If your tastes run more to a weekend in Paris than Polperro, or Geneva than Jersey there are economical deals-with-hotels for less than the normal return air fare. Still cheaper are the many mini-cruises and shore stays sold by ferry lines on routes to everywhere, from Scandinavia to France.

The following is just a taste of next winter's weekend feast.

PLAYING AT HOME

Hotels in Britain make their weekend offers one big away-game, with Breakaways, Hushaways, Whileaways, Getaways and even Stay-aways; but they usually add up to much the same thing — two nights' stay between Friday and Sunday with half-board. More and more, however, now offer 'activities' as an extra. Sports such as golf, tennis, riding, angling, squash and badminton feature strongly, but there are also scores of hobby weekends, from birdwatching to basketmaking, and culture weekends of art, music, antiques, history and

archaeology. Embassy Hotels, a market leader in leisure-learning weekends, is offering 14 different subjects in the 1980-1981 late-break 'term'.

You may, on the other hand, prefer the livelier city centre weekends, with nightclubs, theatres and shopping trips as optional extras — often with inclusive rail travel at discount rates.

Country or city prices are often similar, and, this winter, you can expect to pay on average between £25 and £40, according to standards. Watch for bargains, for it's how badly a particular hotel needs your business that often dictates rates at this slack time of year. Watch out, too, for breaks that don't include VAT or offer only breakfast: more-generous hotels provide free newspapers, morning tea, and so on. Children's charges can vary widely.

Choosing which hotel from hundreds can be difficult, but many breaks are centrally marketed through the big hotel chains or linked groups of independent establishments. Biggest of the latter is Best Western, with more than 140 mainly country-seaside hotels all over Britain. Each with its own personality, they offer an amazing range of activities, all listed in a combined brochure.

Many break-hotels are now following a trend of offering a daily meal allowance — usually £6 to £8 — instead of *table d'hôte*, and lets you choose *à la carte*.

One of the largest of the company chains offering weekend breaks at 75 cosy, small-to-medium-size provincial hotels is Anchor Hotels. Its rates range from £25 to £34 for two nights, but it also specialises in cheaper one-night stays that include meals with free wine and coffee.

Grand Metropolitan's 'bait' is the gift of a lady's or gent's gold-plated watch to anyone buying four full weekends. Its Camelot country-hotel weekends of two nights' half-board, aimed at motorists, also include free stays for children sharing, and cost from £36, with activities such as birdwatching, brass-rubbing and ski-ing as optional extras. It also offers London weekends with cheap rail travel. You can travel from the West Midlands, for example, and have a two-nights' stay with breakfast for just £39.



Give winter an even



break!

WINTER BREAKS

Discount vouchers for two restaurant meals are also included.

The Crest group, on the other hand, is courting AA members with special rates.

Embassy Hotels caters especially for families, with no charge for children under 12 and no single-room charge either. It has four London hotels where bed and breakfast rates start at £29, or it has Hushaway breaks at nearly 50 country hotels from £24. The Rank group has five London hotels offering two-night stays from £29.

One of the cheapest London buys, this winter, must be the £22 for two nights at either of Norfolk Capital's two new Fairway Inns in Kensington and Bayswater. A weekend at its London Metropole for £25 isn't overpriced, either.

Birmingham may not seem the best place for a holiday, but it's not all car-factories and Spaghetti Junction. If you want to be a big noise, try its £62.10 shooting weekend — with tuition on a nearby country estate.

The City of Brighton claims to have invented the weekend away, and Brighton Corporation has a brochure listing £16-£40 Weekenders that can include tickets to a pre-West-End performance at the resort's Theatre Royal.

Scattered across the country are the eight hotels in the Kingsmead group offering £15.50-a-night 'scenecchanger breaks'. Take your pick from Coaching Inns, cottages or Georgian mansions, and, should your children accompany you, you need pay only for their meals.

The 17 hotels in the Scottish Highland chain stretch — oddly enough — from Yorkshire to the Hebrides. Many are conveniently close to golf courses — Troon, Pitlochry and Nairn for example — and prime fishing waters — Lairg, Tongue, Gairloch and Pitlochry — and golfers and fishermen are notoriously immune to winter weather . . . especially at prices as low as £13.50 a day.

There is almost nothing that isn't available with weekends from Britain's biggest hotel chain, Trust Houses Forte. Personally, I'd settle for the real-ale stays, including five free pints of cask ale that the Royal Chase, Shaftesbury provides. Why don't they call that a 'Boozeaway' . . . ?

CONTINENTAL JOURNEYS

A weekend in Paris is certainly not a flight of fancy — not since the new schedule-flight 'Superpex' fares of only £45 return. These are for limited departure only, and the hotel isn't included, but it does mean that you can now put together your own cheap package. And French hotels are the cheapest thing in that country:



Town talk — the bright lights of London's Piccadilly Circus shine on everything, from down and outs to the sumptuous Ritz Hotel!

usually, you rent a 'family room' at rates prescribed by the government and put into it virtually as many people as you like.

There are similar low-excursion fares planned for other European cities, and there's going to be plenty of scope for quick breaks over there this winter. The Swiss Tourist Board, for example, offers three nights b&b by Lake Geneva for just £20.

A lot of tour firms, too, cut costs by offering a wide permutation of travel links, combining air with coach and rail, to give good savings for just an hour or two extra on the journey. Paris Travel

Service, for example, offers a £59 weekend package that includes a Dan-Air flight from Lydd, Kent, to Beauvais, France, and coaches linking London and Paris. For another £7 to £9, it also offers direct flights from Gatwick/Heathrow to Le Touquet, with rail travel at the London and Paris ends. Supplements for flying direct from the provinces range from £13 (East Midlands) to £64 (Aberdeen). Another prominent operator, Time Off, sells two-night Paris stays from £72.10, using flights from Gatwick, Southend and Southampton to Le Touquet, plus rail. Direct

London-Paris packages cost from £75.50; Birmingham starts cost £19.10 extra, and Bristol/Cardiff is £17.30 more. Shopping around can turn up cheaper buys, too. Falcon Leisure, for example, offers two nights in late-autumn Paris from £57, with direct flights to and from London Gatwick, while Travelscene goes into the winter with a £64 offer.

Both Falcon and Travelscene are among the wide choice of operators marketing that second-most-popular European weekend city — Amsterdam — from £67 and £74 respectively, up to the end of October. Falcon also



Country calm — the Beaufort Hotel in Tintern, Gwent. You could even compose a few lines in the abbey opposite . . .

Switzerland

LAKE GENEVA REGION



Very Reasonable Prices

The Lake of Geneva Region is often called "Switzerland in miniature", its varied scenery giving an excellent picture of Switzerland as a whole. It is situated in the south-west of the country and has four outstanding tourist assets: its Alps, with the well-known resorts of Villars, Leysin, Les Diablerets, Château d'Oex and Les Mosses; the mountain chain of the Jura with Ste. Croix-Les Rasses, the Vallée de Joux and St. Cergue, several famous lakes, including the Lake of Geneva with towns like Montreux, Vevey, Lausanne, Morges, Rolle, Nyon, and the international metropolis of Geneva along its shores, and the lake of Neuchâtel, with Yverdon-les-Bains at its southern end; and finally, lovely countryside, in particular the valley of the Broye on the way to Berne, completes the very wide choice that gives the Lake of Geneva Region its charm.

It is also famed for its culinary traditions — influenced by French cuisine — which have contributed to a large extent to the renown of Swiss cooking. Many specialties of the Lake of Geneva Region are found side by side with the more traditional gastronomy. There is a large variety of small, really local dishes, available at very reasonable prices. Swiss

cheese dishes, "fondues", "raclettes" and fritters, are very popular, especially when accompanied by the excellent local white wine. Lake fish including delicious perch fillets, trout, pike and fera, "cochonaille" (a pork dish), Payerne and Geneva sausages are all typical culinary specialties.

The prices charged in hotels and restaurants are very reasonable when one takes into account the quality of the dishes and the service offered. A coffee or a cup of tea for example costs about £0.40 (S.Fr. 1.40), a "croissant" £0.10 (S.Fr. 0.40), a 2 dl glass of beer £0.25 (S.Fr. 0.90) and a "fondue" £2.70 (S.Fr. 9.50). In addition, many restaurants offer the day's special for £2.30 (S.Fr. 8.-) or £2.60 (S.Fr. 9.-) service included, while the price of a meal in a better class restaurant varies between £5.20 (S.Fr. 18.-) and £7.- (S.Fr. 25.-).

3 Nights from £20: (S.Fr.69.-) is one of the hotel arrangements offered by the tourist offices of the Lake of Geneva Region, comprising accommodation in twin-bedded rooms, breakfast, taxes and service charges included. This basic offer is completed by a whole range of attractive and inexpensive package arrangements.

The Highest Jet of Water

Did you know that the fountain with the highest jet of water in the world is in Geneva? The jet rises out of the lake, just off shore, to a height of 460 ft. Each second,

no less than 110 gallons of water are thrown up into the sky at a speed of nearly 125 miles an hour to create the unforgettable sight for which Geneva is famous.

Fribourg-Neuchâtel Region

The canton of Fribourg contains many historic towns, including its capital, Fribourg, and the charming cities of Morat, on the shore of the lake of the same name, Estavayer-le-Lac, on the shore of the lake of Neuchâtel, and Romont, Bulle and Gruyères in the Fore-Alps. It is also renowned for the lovely, still-picturesque regions of Charmey, Moléson and the "Lac Noir" (Black Lake).

Neuchâtel is a canton of mountains — with the Jura range; and water — with the lakes of Neuchâtel and Bienne. La Chaux-de-Fonds, Switzerland's watchmaking capital, and Le Locle, the city of precision engineering, are surrounded by large woods and pastures, while Neuchâtel, an historic town for studying and holidays, is ideally situated on the shores of the lake that bears its name.

Information

- Swiss National Tourist Office, Swiss Centre, 1 New Coventry Street, Tel. 01-734 19 21 - TX 21295 Swisturist ldn. P.O. Box 10, Wardour Street, London W1V 4BJ.

- Office du tourisme du Canton de Vaud, avenue de la Gare 10, CH-1002 Lausanne, tel. 01041/21/22 77 82, TX 24390.

- Office du tourisme de Genève, rue de la Tour de l'Île 1, CH-1204 Genève, tel. 01041/22/28 72 33, TX 22 795.

- Office neuchâtelois du tourisme, rue du Trésor 9, CH-2000 Neuchâtel, tel. 01041/38/25 17 89.

- Union fribourgeoise du tourisme, route Neuve 6, CH-1700 Fribourg, tel. 01041/37/23 33 63, TX 36499.

Booking (Through your travel agency or the local tourist office).

Lake Geneva Region The lake of Geneva

CH-1211 Genève
CH-1260 Nyon
CH-1180 Rolle
CH-1110 Morges
CH-1006 Lausanne
CH-1605 Chexbres
CH-1800 Vevey
CH-1820 Montreux

The Broye

CH-1530 Payerne

Nord vaudois
CH-1400 Yverdon-les-Bains
CH-1450 Ste-Croix-les-Rasses

The Jura
CH-1347 Vallée de Joux/Le Sentier
CH-1264 St-Cergue

The Alps
CH-1837 Château-d'Oex
CH-1865 Les Diablerets
CH-1854 Leysin
CH-1861 Les Mosses
CH-1884 Villars

Fribourg-Neuchâtel Region

CH-1700 Fribourg
CH-3280 Morat
CH-1630 Bulle
CH-1661 Gruyères-Moléson
CH-1637 Charmey
CH-2000 Neuchâtel
CH-2300 La Chaux-de-Fonds

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WINTER BREAKS

caters for 'independents', with poundsaver return flights for £49 to both Paris and Amsterdam.

The majority of two-night, direct-flight weekends in the Dutch city, however, are in the £80-£100 range; Anglia Holidays weekends start at around £82, but it can also offer departures from many UK airports for supplements of £3-£32.

The Belgian cities and resorts of Brussels, Bruges, Ghent and Ostend have a strong following among Britons, and the Belgian Travel Service lists inclusive two-night stays from £69 to £89, flying from Southend, Gatwick or Heathrow. It also has special weekend trips to beer festivals and a winter carnival in Ostend. W Germany, too, can offer lively weekends, such as the Munich Oktoberfest and Rhine wine celebrations. You could even sample the delights of Hamburg's Reeperbahn on a two-night trip by air from London with RACS Tours. It costs from £110 – but we must stress that this one is not all-inclusive . . .

GOODBYE SAILORS

Proof that nothing will stop many Britons taking a weekend break in winter, nowadays, is the way they take mini-cruises and other inclusive ferry deals – despite the risk



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of gales. Very low fares are, of course, the big bait, but extra incentives are the cheap deals, offering coach tours, gourmet trips, shopping weekends, cut-price or even free-car rates and free drinks.

The range of destinations is comprehensive, too — Scandinavia, W Germany, Holland, Belgium and France. On some trips, you can spend a night or two on foreign soil; on others, shore leave is just a few hours. Value is high, but does depend on your sea legs. For that reason, it probably pays to buy deals where meals are an extra charge . . .

Alternatively, choose short, cross-Channel ferry voyages that simply serve as a way to taking a normal Continental weekend. The lines package these as well. The Danish line DFDS, offers a 43hr round-trip from Harwich to Esbjerg on large, modern ferries, with plenty of facilities such as discos, pub, shops, roomy lounges and children's playrooms. The cruise includes a 5hr stopover with coach trip. Cost? From £15, excluding meals but with cabin. Special 'celebrate-at-sea' cruises, with meals, wine and liquor cost from £40 (limited to minimum parties of eight). Crossings plus a night or two ashore, hotel included, are priced from £36 with your own car.

Tor Line runs a slightly longer

round-crossing of 50hr from Harwich to Gothenburg, Sweden, in equally roomy, modern ferries, for £32-plus, excluding meals, but also with city coach tour during the 4hr stay in port.

A harbour sightseeing trip is part of the mini-cruise sold by Prins Line on its 44hr round voyages from Harwich to Hamburg, with slightly shorter trips to Bremerhaven, including a coach tour. Costs for both are from £22.

The Harwich-Hook of Holland crossing is hardly a cruise, but Sealink has plenty of weekend holidays with a night ashore in Amsterdam, Ostend, Brussels, Antwerp, Liege and Namur from about £38 (additional night from £10). It has similar stays in Calais, Dunkirk, Le Touquet and Lille, all including rail travel from London, with much-reduced rates for train connections from farther afield. An added bonus is a free pack of a litre of spirits and two litres of wine. This 'goodie' is also part of the two-night 'bonus breakaways' in the Channel Islands, costing from £43, with sailings from either Portsmouth or Weymouth. There's a moderate extra charge for taking your car.

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For reservations or brochure on Rank Hotels Weekend Breaks, contact Rank Hotels Inclusive Travel Department on 01-937 0088/9 or complete and return the coupon.

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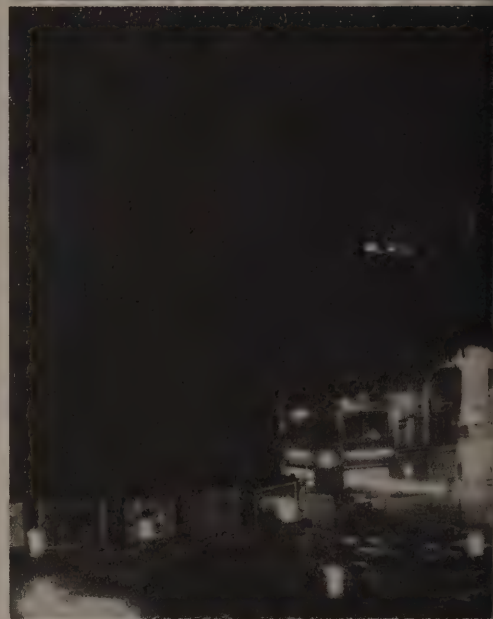
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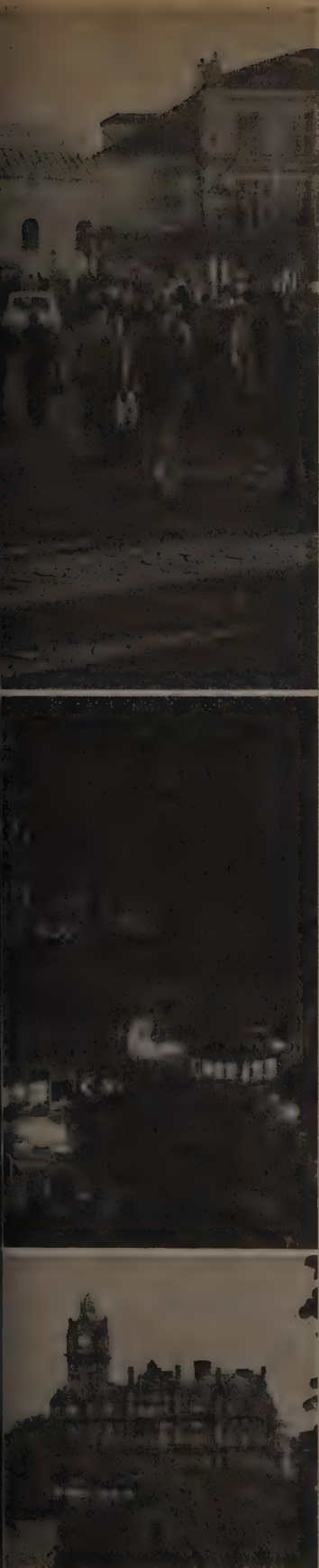
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WINTER BREAKS





A tally of five cities around Europe. Top: Paris's Montmartre — where pavement artists will sell you an original, or even yourself in oils; middle: Brussels town hall — centre of Europe; left: a bridge not-too-far — the Magere Bridge over the Amstel in Amsterdam; above: home again, home again — the traditionally North British Hotel in Edinburgh

French Government Tourist Office

driver to Amsterdam will cost £61 (additional passenger £34); Paris is £70 (£40); and Bruges will cost £68 (£41).

P&O Ferries, too, runs mini-breaks that include a £19 one-night stay in Boulogne, or a ferry-coach-trip from around £25 for a night in Paris. Its jetfoil from London to Ostend plus hire-car comes in deals from £73 for one-night shore (without hotel).

On the equally fast Seajet route from Brighton to Dieppe, there are one-to-three-night hotel stays from around £40, or coach-jet-coach trips from Victoria to Paris from £36. The Channel hovercraft services of Hoverlloyd and Seaspeed also have cheap breaks.

Further west, Brittany Ferries sails from Plymouth and Portsmouth to Roscoff and St Malo, with a choice of 24hr and 60hr round-trips costing from only £13 and £18. There are also half-board hotel breaks, from £22 for a night (£8-plus for extra nights) in Brittany.

BILL GLENTON

Better late than never

WAY BACK IN 1950, when I was 10 years old, a retired farmer moved into the house next door. He was a quiet and charming old chap, fond of gardening and watching cricket, who lived modestly and spent his summer holidays in unexceptional places such as Bournemouth and Llandudno. But we regarded him as the next best thing to having Marco Polo or Christopher Columbus as a neighbour. Why? Because every autumn he packed his bags again and sailed off to... South Africa, no less.

Times change. Few of us can afford to slip away for a couple of months' pre-Christmas sun, but The Late Break — be it a weekend or a full-scale second holiday — is nowadays no more astonishing than the two-car family. Two or three days away from it all in Gt Britain — a full week, even — brings numerous European destinations within reach. And, if time and money are available, what better than to relax on a sun-kissed beach, while weathermen back home warn of fogs, frosts, gales and floods? A word with your nearest AA Travel agent will reveal something for most pockets and tastes.

Talking of taste, how about a gastronomic weekend, to get the palate tuned-up for Christmas? Torquay's five-star Imperial Hotel charges £126 per head for the pleasure of enjoying superb



Anthony Peagan

Market forces in the Far East — for £700 or so, you can forget winter for two weeks

meals prepared by some of Europe's leading chefs. The Imperial also runs an 'arts and antiques' weekend in October, with television's Arthur Negus topping the bill.

Other short-stay packages cater for all manner of specialised interests. For instance, cut-price admission to Donnington Park is included in the breaks at The Post House at Sandiacre, on the main Derby-Nottingham road. Donnington is Britain's most modern racing circuit, and housed there is a superb collection of racing cars, as well as Leyland's historic vehicles.

If, however, sun, sand and complete relaxation rate high on your priority list, then Spain, Portugal, Cyprus, Corfu, Malta and the like are obvious late-break targets. But, if you fancy something just a little more stimulating, why not visit one or more of the great cities in and near Europe? Cosmos, for instance, operates tours to Rome, Athens, Jerusalem, Tel Aviv, Cairo and elsewhere until well into the autumn. Nine October days in Cairo — just over five flying hours from Heathrow — cost around £230, on a bed-and-breakfast basis; eight half-board days in Athens at this time of year runs out at nearer £120.

Athens, Naples, Lisbon and Barcelona are among the fascinating cities embraced by Thomson jet-and-coach holidays. If these are not sufficiently far afield to impress the neighbours, the same operator will take you round Morocco — with a night each in Rabat, Marrakesh, Fez and Tangier.

A cruise is probably the most traditional way to spend a late holiday, and Cunard links up with British Airways to provide, among other deals, an eight-day £439 package that includes sailing to New York on the QE2 and then jetting home. The world's most-famous liner also does a nine-day cruise, priced from £485, that starts and ends in Southampton, with Las Palmas, Tenerife, Madeira and Lisbon visited en route. Other QE2 possibilities include a 17-day Caribbean cruise from £1130.

Casting the net even wider, you

can take Frank Sinatra's melodious advice and 'beat the birds down to Acapulco Bay' on the Pacific coast of Mexico. Cosmos will fly you there for £425, after loosening you up with a few days in New York and Mexico City.

It is also a good time to visit such famous N American resorts as Miami and Palm Beach. Both are within easy reach of the varied attractions of the Everglades National Park, Disney World, the Cape Kennedy Space Centre and the 23-mile sands of Daytona Beach, where Campbell, Seagrave and others battled for the world land-speed record, half a century ago. Another attractive proposition in the same part of the world is a two-centre holiday involving maybe Miami and the Bahamas.

Rankin Kuhn's wickedly tempting 'Far Away Places' holidays are rich in names that are difficult to resist — such as Barbados, Jamaica, Tamarind Cove, Turtle Beach, Treasure Cay and Coconut Creek. Here, again, you can think in terms of a two-centre holiday embracing perhaps Barbados and St Lucia, Tobago or Grenada. Escapes to the W Indies tend to cost at least £600 for a fortnight, but watch for special offers that throw in an extra week for virtually next to nothing.


Jet travel has brought even the Far East within range of the really ambitious late-breaker: Thailand, Malaysia, Hong Kong, Singapore and the rest need no longer just be names in an atlas.

A seven-night visit to Malaysia and Singapore with Rankin Kuhn can cost as little as £475, if you opt for budget-priced hostel rooms, while seven nights in Hong Kong work out slightly cheaper. An additional £300 secures two weeks on Bali, the beautiful 'Island of a Thousand Temples'. The value-for-money of such holidays becomes more obvious when related to standard air fares.

There's space here to do little more than mention a few 'escape routes' open to late breakers, but it should start you thinking.

Bude or Bangkok? Tenby or Trinidad? What could be nicer than devoting a few post-summer hours to wondering about where to go in a few weeks' time!

PHILIP LLEWELLIN

 MAKE AND MODEL	Road Test Report No	Date	DATA AT TEST DATE					insurance group	MODEL YEAR Average secondhand price guide							
			engine cc	mean top mph	acceleration 0-60 in sec	overall mpg	1980		1979	1978	1977	1976	1975	1974	1973	
Alfa Romeo Alfased SE/1.3 Super 4-dr	354	1974	1186	92	16.1	32.5	5	3370	2825*	2155	1760	1435	1165	920	—	—
Giulietta 1.6	D25	1979	1570	104	12.2	29.75	6	4260	3665	—	—	—	—	—	—	—
Audi 80GLS	D18	1979	1588	103	11.9	34.75	6	4955	4210*	3420	2725*	2180	1685	1290	945	—
100LS/L5S	418	1977	1984	108	11.9	29.0	7	—	—	3345	2775*	1985	1660	1340	1115	—
Austin-Morris Mini 850	R 8013	1980	848	73	23.6	42.5	1	2380	2100	1805	1545	1320	1120	945	795	—
Mini Clubman	410	1977	1098	82	18.2	40.5	1/2	2855	2515	2160	1855	1580	1350	1140	965	—
Allegro 1300 (1.3 4-door)	377	1976	1275	85	19.0	37.0	2	3080*	2725	2320	1975	1665*	1410	1170	965	—
Allegro 1500L estate	D9	1979	1485	90	16.6	34.25	3	—	3100	2625	2220	1860*	1545	—	—	—
Maxi 1750 HL (HLS)	R 805	1980	1748	94	13.1	30.5	4	—	3130*	2655	2255	1905	1585	1320	1080	—
Princess 1700HL (1800 HLS)	397	1976	1798	96	14.2	29.75	3	4210	3370	3070*	2305	1860	1490	—	—	—
Princess 2 2200HL (HLS)	D11	1978	2227	103	13.8	27.25	6	—	3515	3195*	2280	1760	1365	—	—	—
Marina 1300 (1.3) 4-door	392	1976	1275	85	18.2	33.0	2	3050	2705*	2315	1965	1655*	1405	1170	975	—
Marina 1700 (1.8) estate	431	1977	1798	93	14.8	30.0	3	—	3220*	2755	2340	1985*	1665	1380	1125	—
BMW 316	RI 149	1977	1573	101	12.9	27.5	6	—	4755	3965	3295	2750*	—	—	—	—
520	D11	1978	1990	109	13.7	27.25	7	7330	6240	5125*	4210	3420	2775	2230	1735	—
Citroen 2CV6	RI 118	1975	602	66	37.2	44.0	1	2110	1775	1445	1220	1025	870	—	—	—
Dyane 6	D1	1979	602	68	26.9	47.0	1	2270	1875	1515	1270	1060	895	745	620	—
GS 1220 Club estate	D8	1979	1222	90	17.0	31.75	3/4	3420	3020	2500	2105	1685	1415	1165	920	—
CX Reflex/2000	416	1977	1985	107	12.7	29.25	6/7	5050*	3515	2875	2355	1935	1535	—	—	—
CX2400 Super estate	416	1977	2347	102	12.7	25.25	6/7	5820	4755	3815	3045	—	—	—	—	—
Coit Lancer 1400GL(X) 4-door	371	1975	1439	94	12.9	34.0	5	3935*	3040	2525	2090	1705	1370	—	—	—
Sigma 2000GLX	432	1977	1995	95	14.1	27.25	6	4315	3860	3235	2695	—	—	—	—	—
Datsun Cherry 4-door	D3	1978	988	83	20.4	38.5	3	2805	2585*	2000	1695	1545*	1290	1080	895	—
Sunny 1200GLS 4-door	D20	1979	1171	86	18.8	37.0	3/4	3065	2830*	2240	1895	1585	1320	1100	—	—
Violet 140J	RI 132M	1975	1428	94	15.5	32.0	4	3145	2870	2410	2010	1665	1370	1110	—	—
Laurel Six	D11	1978	1998	96	13.7	25.0	6	4580	4110	3420*	2170	1815	1515	—	—	—
Fiat 126	D1	1979	652	68	37.2	47.0	1	2110	1845	1580*	1355*	1030	875	740	615	—
127 1050CL (3-door Special)	429	1977	1049	84	16.4	39.75	3	2700	2370*	1965*	1660*	1400	1170	970	805	—
128 1100 4-door	402	1976	1116	83	17.4	38.0	3	—	—	1910	1615*	1360	1140	955	780	—
131 1600 estate	412	1977	1585	96	14.2	32.75	5	—	3340	3080*	2365	2160*	1625	—	—	—
132 2000 (1800)	D12	1978	1995	103	10.7	29.25	6	4700	3940	3310*	2100*	1735	1420	1290*	890	—
Ford Fiesta 1000L	417	1978	957	83	18.4	41.0	1	2955	2730	2360	2100	—	—	—	—	—
Fiesta 1300S	RI 181	1979	1298	93	13.1	38.0	3	—	3210	2770	—	—	—	—	—	—
Escort 1300 Mk1/2	D4	1978	1297	85	17.1	33.0	2	2735	2470	2105	1805	1525	1300*	1145	965	—
Escort 1600 Ghia	D4	1979	1598	96	12.7	33.75	5	—	3280	2805	2395	2035	1725	—	—	—
Cortina 1600L	404	1976	1593	89	15.3	27.0	3	3595*	3260	2790	2380*	1695	1450	1240	1045	—
Cortina 2000 estate	413	1977	1993	96	12.7	27.25	5	4675*	4190	3595	3080*	2130	1825	1555	1320	—
Capri 2000S (GT)	RI 166M	1978	1993	109	10.9	30.25	4/5	—	3820	3240*	2735	2290*	1915	1580*	1285	—
Granada 2.8 estate auto	D8	1978	2792	103	11.4	21.0	6	—	5595	4480*	3145	2525	1985	1510	1065	—
Honda Civic	RI 155	1978	1238	83	15.5	36.5	4	2675	2590	2210	1965*	1585	1350	1130	—	—
Accord 3-door auto	420	1977	1600	89	14.7	32.0	5/6	—	3945	3350	2835	—	—	—	—	—
Jaguar-Daimler XJ6/4.2 auto	R 8024	1980	4235	125+	10.3	19.0	7/8	12875	11585*	7925	5695	4530	3565	2725*	2155	—
XJS auto	394	1976	5343	150	7.7	15.25	7	15445	12575	10250	8220	6535	—	—	—	—
Lada 1200	RI 175	1979	1198	84	17.4	28.5	3	2115	1885	1585	1330	1105	910	740	—	—
1500/1600	RI 173	1979	1570	92	14.8	29.25	4	3065	2770*	1985	1665	1385	—	—	—	—
Lancia Beta 2000 (1800)	RI 171M	1978	1995	107	11.2	26.5	6/7	4135	3345	2700	2130	1535*	1215	945	—	—
MG GT	D13	1979	1798	101	12.4	27.0	6	4905	4360	3815	3295	2775*	2330	1935	1610	—
Mazda 323 3-door (New 1300)	D4	1978	1272	89	15.9	36.5	4	2925	2565	2170	1835*	1355	1135	950	—	—
Mercedes-Benz 280E auto	D11	1979	2746	120	9.4	21.0	7/SR	—	10695	8890	7330*	4655	3915	3220	2675	—
Opel Kadett L estate	338	1974	1196	84	16.7	32.0	3	—	2970	2515	2320	1785	1495	1240	1010	—

S/R=special rates * = revised specification or designation

USED-CAR PRICE GUIDE

Coupés de grace

BY THE TIME that a garage mechanic has seen 100 cars of the same model, he can make a shrewd guess at what he will find amiss on the 101st. The same goes for the AA's seen-it-all-before engineers, so we asked them to summarise what they'd expect to see on the evergreen Ford Capri...

Scant underbody sealant — improved slightly from K-registrations onwards — makes older Capris prime

targets for rust. Undersides of sills and wheelarches are the main problem areas, and it's worth checking mudtraps over the headlamps, at the rear of the wings and around the suspension mountings.

On XLR models, examine watertraps under the brightwork, and look for once-common boot and windscreen leaks. Cars with opening rear quarterlights have clasps that can break off the glass.

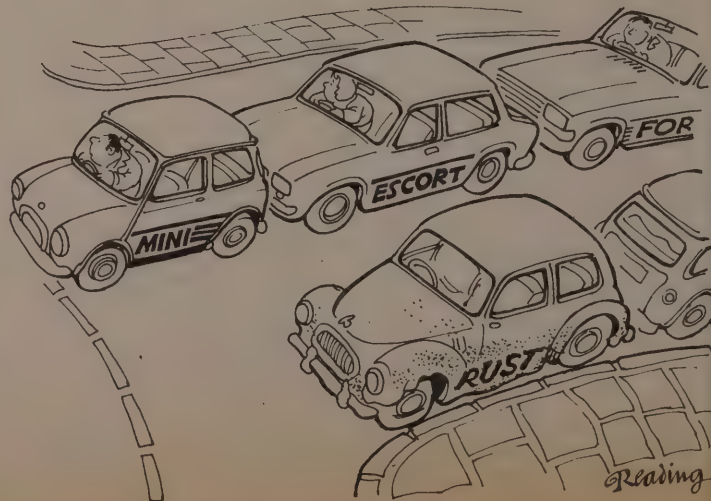
Under the bonnet, check for oil leaks around head gaskets, rocker covers and rear main bearings. A noisy 'top-end' can be caused by wide valve clearances or wear in the rocker arms and/or camshaft. Erratic idling may be caused by poor carburettor adjustment, or timing run-out on the distributor due to wear. Cold starts with an automatic-choke model should be immediate after flooring and releasing the accelerator.

Look for oil leaks at the rear

axle and gearbox tailshaft seals, and watch out for driveline shakes that could reveal a worn propshaft or faulty clutch. Some abruptness in the take-up is acceptable, but early Capris are prone to clutch cable failure, sometimes signalled by jerky

action or squeaking. Knocks and clonks from the back and wander at speed may indicate worn dampers or radius arm mountings, or loose rear-spring U-bolts.

Dampers can be checked using the 'bounce' test: if the car is pushed down and



MAKE AND MODEL	Road Test Report No	Date	DATA AT TEST DATE					insurance group	MODEL YEAR						
			engine cc	mean top mph	acceleration 0-60 in sec	overall mpg	Average secondhand price guide								
							1980		1979	1978	1977	1976	1975	1974	1973
Manta	407	1977	1897	103	11.0	26.5	4	4730	4235	3915*	2975	2455*	2030	1635	1290
Rekord	D12	1978	1979	104	12.2	28.0	6	4975	4310	3490*	2105	1760	1465	1190	970
Peugeot 104GL	406	1977	954	83	19.9	36.0	3	2875	2480	2080	1735*	1440	1215	995	845
305 (304)	D9	1978	1290	88	15.8	33.75	4	—	3195	2725*	1960*	1635	1365	1140	945
504 (1800L)	R1 174M	1979	1796	94	14.6	28.0	5	4060	3445*	2825	2330	1910	—	—	—
504Ti	358	1974	1971	104	11.1	26.25	6	—	4185	3470	2875	2380	1935	1585	—
504 Family estate	R1 159	1978	1971	98	13.3	26.5	4	—	4855	4060	3395	2825	2380	1960	1635
604SL	391	1976	2664	112	11.6	23.25	7	—	5150	4110	3220	2480	—	—	—
Reliant Scimitar GTE	303	1973	2994	118	9.1	21.25	7	—	6190*	5150	4235	3495	2900	2405	1935
Renault 4TL/GTL	R 8017	1980	1108	70	27.1	41.5	S/R	2650	2305	1935	1620	1360	1145	965	805
5TL	D3	1978	956	81	19.3	39.5	3	2975*	2600	2205	1835	1535	1290	1040	870
5TS	370	1975	1289	93	13.3	36.25	4	3490	2995	2525	2130	1785	1490	—	—
12TL estate	374	1976	1289	87	16.6	31.5	3	—	3170	2650	2230	1860*	1535*	1290	1090*
14TL	414/R1 189	1977	1218	89	14.8	36.5	4	3320	2875	2430	1985	—	—	—	—
16TL	291	1972	1565	93	15.1	29.5	4	—	2975	2480	2080	1735	1440	1190	995
301S	R1 134M	1976	2664	113	10.3	23.75	3/4	—	4655	3815	3120	2525	—	—	—
Rover-Triumph Rover 3500	428	1977	3528	119	10.4	24.5	6	—	6190	5100	4185	3420*	2180	1760	1415
Range Rover	D2	1979	3528	94	15.7	16.25	5	10495	9010	7850	6860	6040	5350	4605	3840
Triumph Dolomite 1300/Toledo	345/R1 150	1977	1296	83	19.8	33.0	2/3	3300	2915	2455	2050	1705*	1365	1130	935
Dolomite Sprint	332	1974	1998	113	9.3	30.0	6	—	3875	3235	2690	2210	1800*	1445	1120
Triumph 2000 Mk2	219	1970	1998	95	15.0	26.0	4	—	—	—	2405	2005	1735*	1390	1140
Triumph Spitfire 1500 (1300)	376	1976	1493	97	12.5	35.25	5	3565	3145	2650	2230	1885	1585*	1340	1140
Triumph TR7	401	1976	1998	108	10.2	28.75	6	4905	3965	3145	2445	2005	—	—	—
Triumph Stag	273	1972	2997	118	10.2	22.5	S/R	—	—	—	4830	3965	3270	2650	2130
Saab 99GL	419	1977	1985	101	12.7	30.0	6	4955	4185	3470	2875	2355	1935	1560	1265
Skoda S110/Estelle 120L	D1/R1 169	1979	1174	86	17.9	33.0	3	2175	1920	1635	1400*	850	725	615	520
Talbot (Chrysler) Simca 1100GLS	298	1973	1118	85	16.5	33.25	3	—	2160	1845	1565	1325	1120	940	775
Avenger 1.3 (1250)	D9	1978	1295	87	16.6	33.5	2	2775	2430	2055*	1735	1460	1220	1010*	815
Sunbeam 1.6S	D6	1978	1600	95	13.9	33.5	3	3795	3405	2875	—	—	—	—	—
Alpine-GLS	381	1976	1442	97	14.3	32.0	5	4035	3515	2985	2515	2110	—	—	—
Toyota Starlet (1000)	D3	1979	993	85	18.7	38.5	3	—	2735	2430*	1610	1360	1140	—	—
Corolla 30	399	1976	1166	87	15.9	33.5	4	—	2635	2245	2070	1595	1335	—	—
Carina 1600 auto	D10	1978	1588	92	15.1	27.5	5	3620	3170	2705	2240	1990	1470	1205	975
Corona GL	R1 185	1979	1770	98	14.2	31.75	6	—	4060*	—	1915	1600	1325	1080	865
Vauxhall Chevette GL(L) 3-door	D3	1979	1256	89	16.2	37.0	2	3280	2925	2510	2150	1905*	1555	—	—
Viva 2-door	378	1976	1256	87	17.0	34.5	2	—	2290	1955	1645	1385*	1160	965	785
Cavalier 1600L 4-door	382	1976	1584	96	12.6	29.5	4	3705	3370	2835	2380	1975	—	—	—
Cavalier (2000) 1.9GL auto	R1 152	1977	1897	97	12.2	27.0	4	—	4100	3440	2865	2360	—	—	—
Cavalier 2000GLS Sports hatch	R1 184	1979	1979	109	11.2	29.5	4	—	4460*	3660*	3070	2555	—	—	—
Victor VX1800	390	1976	1759	98	14.4	28.0	3	—	—	—	2455	2055	1785*	1390	1090
VX2300 estate	R1 147	1976	2279	101	12.2	26.5	4/5	—	—	2725	2280	1960*	1510	1190	920
VW Beetle 1200	353	1974	1192	72	27.5	38.5	2	—	—	—	2485	2030	1755	1505	1300
Polo L900	408	1977	895	81	19.0	39.5	3/4	3170	2945	2515	2160	1850	—	—	—
Derby GLS1300	R1 168	1978	1272	94	13.0	36.0	4	—	3310	2810	—	—	—	—	—
Golf L1100	411	1977	1093	87	16.8	34.5	4	—	3360	2875	2460	2090	1775	—	—
Scirocco GLS (TS)	D7	1979	1588	104	10.6	33.75	6	—	4780	4060	3445*	2875	2405	—	—
Passat LS1600	388/R1 165	1976	1588	97	13.1	33.0	6	—	—	4100	3390*	2790	2250	1780*	1370
Volvo 343DL auto	D10	1978	1397	88	17.0	30.5	5	—	3665	3070	2575	—	—	—	—
244 (144GL)	426	1977	2127	102	12.0	27.5	7	6655	5945	5025	4260	3615	3095*	2305	1885
245 (145DL) estate	368	1975	2127	96	13.8	24.0	5	6340	5845	4930	4210	3590	3045*	2480	2055

released, it should not imitate a yo-yo. Remember, too, that dampers and MacPherson struts are on borrowed time after 30,000 miles.

Steering vibrations could indicate nothing more than unbalanced wheels, but check for play at the steering wheel. No more than 1in is allowable. Capris have always been prone to wander in motorway crosswinds, but, if you suspect that there is wear, check the steering column's coupling. Test wheelbearing play by rocking the top of the wheels — there should be no play at all.

Electrics are generally reliable, but rear brake-lamp failures are common, and reversing lamps may come on in top gear! Water leaks sometimes shorten indicator-bulb life, and early rectangular headlamps also suffered from leaks.

After all these checks, don't forget the routine secondhand car scrutineering. With any



car purchase it is essential to check brake pads for wear and brake pipes for fluid leaks or rust. Work around your prospective purchase, taking nothing for granted . . . For example, the first misty morn-

ing you meet is not the time to find out that the heated rear window doesn't work.

And finally, when you have found the right car, be careful not to pay the wrong price. Check out depreciation fig-

ures with the help of our list (above) of 100 of today's most-popular secondhand cars. Specifications are compiled from AA roadtest reports, the reference numbers and dates of which are given.

Keep right on?

Thousands of Brits who cross the Channel each year manage to cover a few yards of French highway on the wrong side of the road. The French do it, too, when they come to visit us. What's the answer? Well, we could change our ways and drive on the right. **DRIVE** went to Portsmouth and questioned people queuing for the ferry. 'Would you like Gt Britain to go right?' we asked.

had their steering wheels on the same side.'

His wife Elizabeth, 30, agreed: 'If you have the Common Market philosophy, it is a good idea. But I think it would be virtually impossible for this country to change its ways — the British have that basic feeling that we don't want to copy the foreigners. Personally, I'd like to be more Europeanised — it would certainly make life easier for international driving.'



Joanne Edge, 19, from Egham, Surrey, was leaving the UK to work as an au pair girl in France. 'I have never driven on the right before, so it will be different. But I think everyone should do the same thing... If I like it in France, I'll be in favour of driving on the right. Certainly, if the UK changed over, it would make life a lot easier for people going abroad — there would be fewer accidents in both directions. Yes, the change-over would cause chaos. I think it would be a good idea to impose a 10mph speed limit for the first two weeks!'



'I don't really think so,' said Bill Austin, a 53-year-old traffic controller from Portsmouth. 'I don't

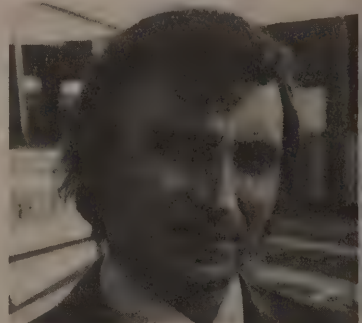
find any difficulty in driving on the right. I have done a lot of driving in Germany — for two years after the war — France and Belgium, and in some ways it is easier in a British car: you can look round the inside of other vehicles. It's just that I'm... well, ultra-British, and I don't want to do it here. Yes, I suppose it would help the car manufacturers, but they should be the last people to be considered: they don't consider us very much, do they?'

'In my experience — I used to be a policeman — you don't get an increase in accidents caused by people being on the wrong side of the road around ports. Most of the accidents that I went to involved local motorists...'

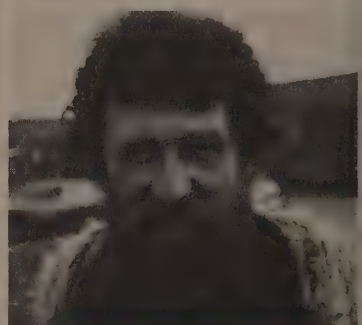


Setting off to follow the sun for six weeks in the South of France, Tom Faulkner, 60, a retired librarian from the Isle of Wight, and his wife Sylvia pondered the question at the wheel of their Volkswagen microbus. 'Well, the steering-wheel would revert to the left, of course,' said Tom, 'and until it does, I prefer to drive on the lefthand side of the road. I agree it would be sensible if we all drove on the same side throughout the world, but the period of changeover would be dangerous. It is certainly difficult to drive a British car abroad on your own. It would be good for the motor industry, of course, but what good would this vehicle be to me? I'll stay as we are.'

Marie-Christine Maslawsky, 22-year-old tourist from Evreux in Normandy, shrugged her shoulders: 'What good would it do? I can't see it would make any difference. Foreigners are used to driving on the left when they are here. I enjoy driving on the left, actually. When I go back to France, I have to think about driving on the right. I don't see why you should change.'



Bus driver Dave Clapp, 39, from Tenterden near Ashford, Kent, was on his way with a party of travel agents. 'No. Definitely not. I get used to driving on the right as soon as I get to France, but I still prefer the left. I don't get any changeover problems. You have visibility with a bus, of course. You need a good offside mirror. But if we had to drive on the right over here, there would certainly be a few accidents until we got used to it.'



Capt Claude Schawlb, 44, from St Malo, Brittany, the top man on the *Prince of Brittany* ferry, spends half of his time in England and half in France. 'It would be better for we French because when we come here it is not so easy. I think the English people are going everywhere in Europe, and maybe it would be better for them if they drove on the right, so that when they come to Europe they are not lost. And that would be better for us, too.'



Civil servant, Eric Vickers, 59, from Old Coultson, Surrey, was busy checking travel arrangements for a June break. 'Drive on the right? Yes, I think so. Obviously, we ought to get into line with the countries we do business with. It doesn't make any sense to drive on the left. Japan is about the only other country doing it, and that is a long way away from us. In Sweden, the change was made overnight at a weekend, and it caused no trouble. It has got to be done, and we have to face up to it. The steering-wheel problem is something that you just have to face up to as well.'



'Of course we should,' said Michael Webster, 36, of Winewall, Colne, Lancs; but then he could have been biased. For Michael was making a one-way trip to live in the Dordogne. 'We should do the same thing as the rest of Europe. And we could easily change over. Australia managed it. We British always imagine the problems will be bigger than they really are. They said decimatisation wouldn't work, and that turned out to be a non event... The only problem would be having the steering wheel on the wrong side of the car, but everyone would get used to it. I know there is a vision difficulty, but that can be overcome, too, if you have the right mirrors. And it would certainly be better for the manufacturers if all cars

American express will do nicely

Both Opel and Vauxhall are subsidiaries of American-based car giant General Motors, and you can bet your bottom dollar that what Opel does today, Vauxhall will do tomorrow. So, when Opel finally went front-wheel-drive with its brand-new 15-car Kadett range of saloons, hatchbacks and estates, it was no surprise to see Vauxhall-badged versions following hot on their wheel-tracks.

Called the Astra, this German-bred range is at present limited to just three models — two hatchbacks and an estate. Their levels of trim and engine tune have been carefully selected to complement rather than compete with any of the Opels, so giving GM Europe the widest range of intermediate-sized family cars that's currently available.

The hatchback Astra's rivals in space are many — the Volks-

Vauxhall Astra GL

wagen Golf, Talbot Horizon, Fiat Strada and Renault 14, to name but a few. And, though the Astra may well have a heavenly body, in the black hole beneath its bonnet lurks something as yet undiscovered by DRIVE. We embarked on a journey into the unknown...

How it goes

Nestling under the Astra's aggressive nose is an all-new engine and transmission. In common with most of the competition, it's a transversely mounted, overhead camshaft unit with unequal-length drive-shafts taking the power to the front wheels. Although there's a choice of three power outputs for Opel's

Kadetts, the current Astra range is available only with the most-powerful 75bhp unit — a phenomenal performance for 1300cc.

Having achieved an excellent set of acceleration times from a 60bhp Kadett, we expected great things from our Astra. Unfortunately, our test car's motto was *Per ardua ad astra*...

One 'bonus' of the 75bhp engine is its twin-venturi GM carburettor, equipped with an auto-choke, but what a temperamental thing it is. Despite taking our usual care in tuning the engine spot-on, starting it from cold was never as quick as it should be, and warm-up was plagued by the choke 'hunting' fruitlessly for the correct degree of enrichment.

Worse still was restarting the engine when partially warm: touching the accelerator pedal brought the auto-choke back into play, with the inevitable result of a flooded carburettor and seemingly endless churning of the starter before the engine sparked.

Once the starting lesson was learned, our Astra went on to emulate its less-powerful cousin with the quickest acceleration figures achieved to date for its class. Pushed up through the gears, the Astra GL covers 30-70mph in 13.2sec, and goes on pulling strongly until it levels out at a maximum 101mph. With the engine spinning in mid-range revs, top gear's response is impressive, too, though there is a distinct lack of urgency when the accelerator is floored at low speeds in fourth.

The story that can't be told by



mere stopwatch times, however, is the delightful ease with which this power unit sets about its work. In our book, its lazy power is second only to the Volkswagen Golf's. Top-gear commuters and gear-swopping boy-racers alike will find it a very rewarding engine — though the latter will lament the absence of both a tachometer and speedometer-marked gear-change points.

For a first attempt at front-wheel drive, GM's gear shift sets a high standard, with none of the clonking imprecision that affects cars such as the Talbot Horizon. Compared to some, it does move a trifle heavily around the gate, but it's certainly not obstructive. Sensibly, there is no chance of accidentally selecting reverse: a collar under the gear stick's knob has to be lifted up before backing is possible. The ratios are well-chosen, and the light clutch had no trouble pulling away on a 1-in-3 hill.

Coming into the front-wheel-drive market so late has given GM Europe a good opportunity to learn from others' road-going experiences. It may not have learnt all the tricks yet, compared to Alfa Romeo and Volkswagen, but the Astra is no also-ran in its general handling and roadholding. It feels undeniably sporty — taut and grippy when powered into a bend — with good steering 'feel' and tenacious roadholding, even in the wet. And there's none of the front-wheel snatch or fight that spoils the steering of some of rival designs. The steering's weight does require some muscle, however, and its relatively low gearing can make the Astra feel ponderous at times, especially at low speeds around town.

An otherwise-good driving position is spoilt by the pedals' layout. The accelerator pedal has a much shorter travel than is usual, and the large step-up from it to the brake can feel very odd to the new Astra driver, and virtually rules out heel-and-toeing. The seat-

HOW GOOD

At-a-glance

DRIVE's verdict on the Vauxhall Astra GL, taking into consideration its rivals, its price and what kind of car it's meant to be.

Out of 10

PERFORMANCE

●●●●●●●●○○

FUEL ECONOMY

●●●●●●●●○○

HANDLING/STEERING

●●●●●●●●○○

COMFORT/REFINEMENT

●●●●○○○○○○

INTERIOR/LUGGAGE SPACE

●●●●●●●●○○

PASSENGER AIDS

●●●●●●○○○○

DRIVER AIDS

●●●●○○○○○○

ACCIDENT/INJURY SAFEGUARDS

●●●●●●○○○○

RUST RESISTANCE

●●●●○○○○○○

COST/EASE OF REPAIR

●●●●●●○○○○

travel adjusters are the swing-link type used in the Vauxhall Chevette/Cavalier, which alter the cushion's angle as the seat is moved forward — too acutely for our liking. Their settings are more-finely spaced on the Astra, but one long-legged driver did complain of being unable to stretch out as much as he would like. To compensate, the driving seat does give good lateral support, and the firmness of its backrest won the approval of back-pain sufferers.

Two column-mounted stalks take care of important minor controls: two-speed wipers (with intermittent wipe) and electric washers are controlled from the right, and indicators with headlamp flash from the left, both sturdy stalks working positively. Other minor functions are

worked by a series of facia-mounted rotary and toggle switches. We weren't too impressed by the latter, which are buried in deep recesses that make them awkward to use.

Instrumentation is rather basic for such an up-market model — just a large, poorly marked speedometer (30mph, 50mph, and 70mph digits are left off), a fuel gauge and coolant temperature gauge, all mounted behind a single non-reflecting window. The tally of warning lamps is better, though some are too bright for the comfort of night driving. Another irritation is the ignition key: apart from being awkward to insert, it is also one-sided — which means that it has to be inserted right-side up every time for starting and to open the front doors and rear hatch.

How comfortable

The Astra is a very convincing argument for the virtues of front-wheel-drive. Besides having a lot more room inside than Vauxhall's rear-driven Chevette, it also has fractionally more back-seat room than the rear-drive Vauxhall Cavalier. In fact, if it's rear-seat knee- and legroom you are looking for, you won't find many modestly sized family cars to rival the Astra. Headroom could be better, but otherwise there is plenty of room for three average-size adults to relax. There's no centre armrest, and those on the doors are not well designed, but the seat is nicely contoured and spoilt only by the cushion's thin padding. Getting in and out is helped by doors that open wide on strong check links and grab rails sited over all the passenger doors. GM please note that rear footwell space could be improved, and that the omission of courtesy lamp switches on the rear doors is mean.

All this room has not been made at the expense of boot space; this, too, emerges very favourably compared to its rivals'. We did not like the key-only operation of the tailgate, but at least the door aperture does extend right down to floor level to make loading easy. The cargo area is beautifully trimmed with carpet on the floor and side panels, and it's also illuminated. Its canopy, also trimmed with carpet, can be set to either rise with the tailgate or fold flush with the seat back. The rear-seat's folding arrangement is also well-engineered, the cushion acting as a rearguard for those in the front — which is just as well as the uneven floor encourages cargo to slide around.

Oddments' space is equally good. There are storage bins on both front doors, and another good-sized one forward of the



VAUXHALL ASTRA GL

Parts/repairs (inc VAT)

clutch £45.02 (fitting 1.3hr)
exhaust £94.36 (0.9hr)
headlamp unit £23.10 (0.7hr)
front bumper £16.07 (0.7hr)
laminated windscreen £55.83 (1.2hr)

oil filter and points £5.49 (1.2hr)
major service 12,000 miles (2.8hr)

Insurance group 4

Warranty 12 months/unlimited mileage

Standing costs per year/12,000 miles

Loss of value N/A
Capital interest N/A
New-cost inflation N/A
Total standing costs N/A

Running costs

Petrol (£1.38 per gal) £460
Insurance (av) £165
Road tax, AA sub £60+£26
Servicing/replacements £140
Total running costs=£851 (7.09p per mil)
Total cost of ownership N/A

HOW IT COMPARES

Vauxhall Astra GL

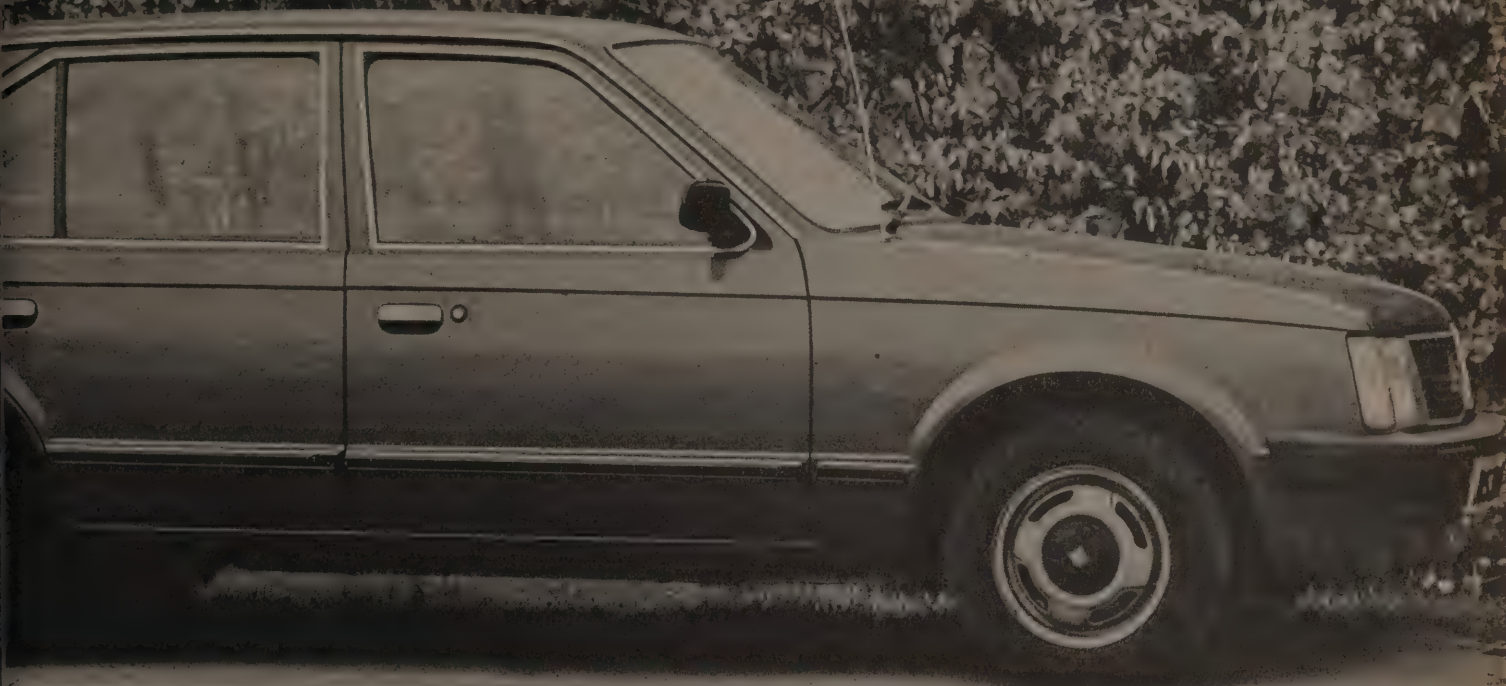
Fiat Strada 75CL (5-door)

Renault 14TS

Talbot Horizon 1300GLS

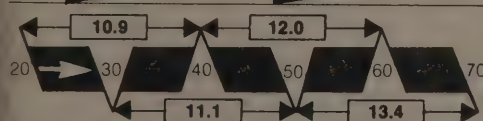
Volkswagen Jetta 1.3GL





ACCELERATION times in sec

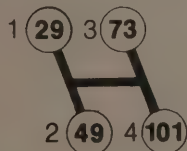
MPH	THROUGH GEARS	IN TOP GEAR
0-30	3.8	
30-40	2.1	5.4
30-50	4.9	11.1
30-60	8.8	17.4
30-70	13.2	24.5



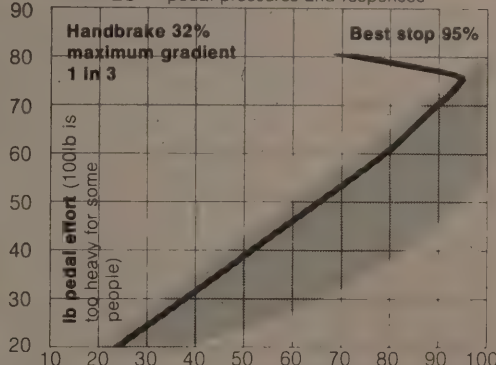
Top-gear speed-range times (sec)

TOP SPEEDS

max engine speed
used 6600rpm
max in top 6250rpm
standing ¼ mile
18.9sec



BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)

55lb at start, 45lb in constant use; 62lb in severe use
Watersplash immediate recovery

FUEL 4-star/98 octane min

Consumption — normal range

short journeys in the suburbs	26mpg
hard driving, heavy traffic	30½mpg
motorway — 70mph cruising	35½mpg
brisk driving, mixed roads	36½mpg
gentle driving — rural roads	43mpg

Typical mpg overall

realistic tank range 290miles/8gal

Consumption at steady speeds

30mph	63½mpg
56mph	45mpg
70mph	35½mpg
max mph	18½mpg

SAFETY CHECKS ○=factory fitted option

steering: energy absorbing? Yes	head restraints: front? Yes
good road 'feel'? Yes	rear? No
brakes: powerful? Yes	interior: well padded? No
sensible effort? No	w/screen: laminated? O
fade resistant? No	doors: childproof? Yes
belts: effective? Yes	latches crashproof? Yes
convenient? Yes	petrol: shielded
fitted in rear? No	filler? No
	protected tank? Yes

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (% G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
4968	1297	36	101	13.2	24.5	95/75	13' 1½"	40½	38½	4/34½
4380	1498	36	97	13.6	29.4/20.7	100/60	12' 11"	39¼	38¼	3½/34
4708	1360	36½	97	15.8	24.6	82/40	13' 2"	40½	36¼	4/32½
4970	1294	33½	94	16.8	27.7	96/55	13' 0"	41	37	4½/33½
4674	1272	35½	90	17.0	26.7	100+/80	13' 9"	39¼	37¼	3¼/33



gear lever. Use of the illuminated glovebox might be encouraged by the addition of a lock.

Fixtures and fittings set a high standard for the class. There's a radio, clock, fully trimmed door panels with carpet scuff-guards on lower sections, and a driver's door mirror that's adjustable from inside. The seats are trimmed in rich velour upholstery, as are the wearing faces of the front headrests, and the whole floor is covered with good-quality carpet. Overall, the effect is pleasing.

Good heating of the front footwells with an air-blender temperature control (the sort that obeys instantly), and the ability to tier the flows of air (cool head-warm feet), combine to guarantee winter-long satisfaction. When warmer summer days arrive, however, the centre fresh-air vents are not sufficiently powerful, and the outboard pair are too feeble to do much more than keep the side windows clear on steamy days. To compensate, the booster fan works quietly.

Wind-generated noise and fretting of the bodywork are generally well subdued in the Astra GL, which makes its 70mph motorway cruising quite inoffensive to the ears. It's at low speeds that the Astra disappoints. Our test car suffered a nasty body tremor as it moved away from rest, carburettor 'flat spots' disrupted its progress round corners, and the exhaust's note became raucous when revving through the gears.

The Astra's ride is less than heavenly, too: it is just not versatile enough for British road conditions. Lightly laden, at low speeds, it transmits every surface imperfection to the interior. Even with a load on board, the Astra still fidgets along, and it is not until the pace quickens that there is any sense of compliance — all signs of the Astra's breeding for higher *autobahn* speeds.

How strong

Sales brochures claim that the Astra has one of the most thorough anti-corrosive treatments in the business. Our own inspection revealed a rather scant

application of pvc compound under the wheelarches and along the outboard sections of the floor pan only. A wax spray had been applied over the entire underside, but this is a short rather than long-term rust-prevention measure. We found no sign of protection inside the closed box sections — unless GM counts on the primer paint . . . We did, however, find one or two welded seams that were bleeding the familiar red stuff.

Up top, there are few exposed seams or crevices to invite rust, but some of the doors' 'shut' lines were crooked, and the tailgate was difficult to close. The metallic paint on our test car — and on other Astras that we have seen — had a disappointing, blotchy finish. We liked the sturdy, plastic-covered bumpers, though, with their large wrap-rounds along the wings.

Thanks to the absence of external brightwork, the Astra is an easy car to clean; and only the velour is hard work to renovate.

How safe

The Astra's cornering manners are impeccable — carburation hiccups apart. It's the sort of car that works with, not against, the driver who makes a sudden accident-avoiding manoeuvre, and there's no sign of tail-swing when 'over-doing it' into a corner and backing off the accelerator in panic reaction.

In normal use, the brakes feel fine. The pedal pressure required is a little on the heavy side by

servo-assisted standards, but the effort remains consistent up to the respectable best-stop. What did worry us, however, was maintaining the best stop in an emergency: press a little too hard and the front wheels lock-up to leave you skidding hopelessly. We were also able to induce brake fade after a series of hard stops, but the consequent rise in the required pedal pressure was never alarming.

The Astra scores reasonably well with its secondary safety features. Interior padding is generally good, though more around the windscreen would not come amiss, and there is no protection in the front seatbacks to guard against rear passenger's knees. You have to pay extra to get a laminated windscreen, however.

How much

The Astra GL looks expensive at present. True, there is little price difference when compared to rivals from Talbot, Volkswagen and Volvo, but just about anything else is a good deal cheaper. Just how this affects the model's depreciation we will have to wait and see, for the Astra's price deficit could well be eroded in the next round of price increases. Its Group 4 insurance is about average for this type of car.

Fuel consumption is up with the best in the class, and the powerful GL does not give away many mpgs to the lower-powered Opel Kadett, either. We were disappointed with its rather heavy consumption when used for short journeys about town but, this apart, most owners will find 35mpg the norm, and could even see 40mpg-plus if they take things easy. The fuel tank is quick to fill up to the last gallon or so but, thereafter, it's plagued by blow-backs. Still, if you persist, it does give a good touring range, and its lockable fuel cap is standard. Oil consumption on the test car was negligible.

The under-bonnet prospects for home mechanics are quite favourable, especially as the use of hydraulic tappets — the first time they've been used on an engine this small — cuts down

servicing time. Accessibility is generally good, but the distributor has to be removed to get at the points.

Verdict

Our Vauxhall Astra GL left us with rather mixed feelings. It offers an excellent blend of performance with economy, and the amount of space its makers have created inside puts its rivals to shame. It's also a willing and sporty performer — for which you sacrifice some pliancy of ride. What disappointed us most of all was its poor starting and carburettor flat-spots.

The Astra could really shine if Vauxhall — sorry, Opel — put in some spit-and-polish on its carburation and suspension. Given its current pricing, however, this little shooting star can stay out of the reach of our more down-to-earth testers.

ENGINE

Type and size front-mounted, transverse, 4-in-line, water-cooled; 75mm bore×73.4mm stroke=1297cc; 5 main bearings; iron block/alloy head

Compression ratio 9.2:1

Valve gear overhead camshaft (with hydraulic tappets) driven by cogged belt

Fuel system one GM Varijet II twin-venturi carburettor (auto choke), fed by mechanical pump from 9¼gal tank — no reserve

Max power (DIN-net) 75bhp at 5800rpm

Max torque (DIN-net) 74.4lb ft at 4500rpm

TRANSMISSION

Clutch diaphragm spring, single dry plate, cable operated, pedal load/travel: 22lb/6¼in

Gearbox 4-speed (all synchromesh) and reverse; ratios: first 3.64:1; second 2.19:1; third 1.43:1; top 0.97:1; and reverse 3.18:1

Final drive 4.18:1 to front wheels

Mph per 1000rpm 16.21 in top gear

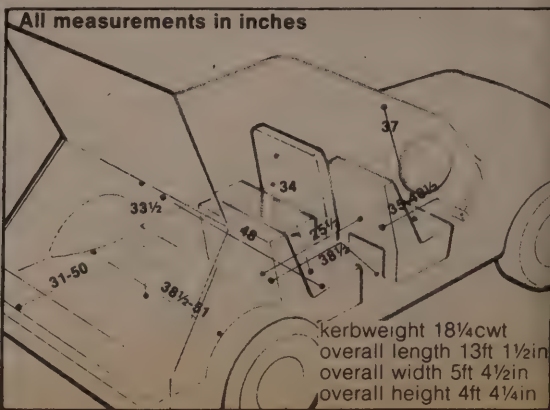
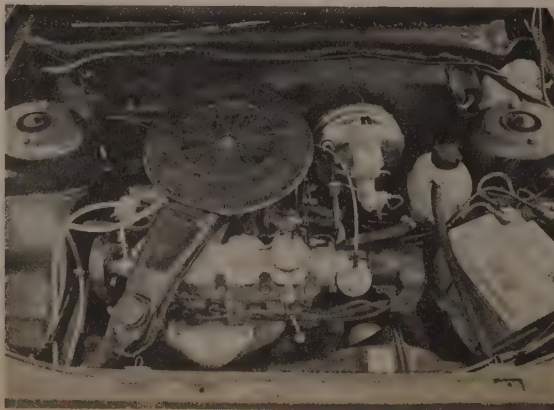
CHASSIS

Suspension — Front: independent MacPherson damper/struts with integral coil springs and anti-roll bar. Rear: torsion beam dead axle with trailing arms, conical coil springs and anti-roll bar. Dampers: telescopic coil round

Steering rack and pinion, with 4 turns between full locks. Turning circles average 34½ft between kerbs, with 65¼ft in response to one turn of wheel

Wheels 5½J steel (alloy option) with 155SR13 radial-ply tyres (Michelin XXZ on test car)

Brakes dual circuit hydraulic, disc front, drums rear, with vacuum servo, line-failure/handbrake-on warning lamp and pressure-sensitive rear apportioning valve



Motor insurance.

Before the cheque

Is your present motor insurance giving you all the cover you want . . . dependably? All the discounts you could qualify for? At the best value on the market?

It could pay you to find out now . . . before your next premium comes due. You can obtain a check on your premium and cover by using the AA's computer service. The service is free and sifts through a whole range of policies arranged with leading insurance companies and at Lloyds, to select the quotation that suits you best. And you can be sure with AA buying power and expertise, you can have the best cover at minimum cost.

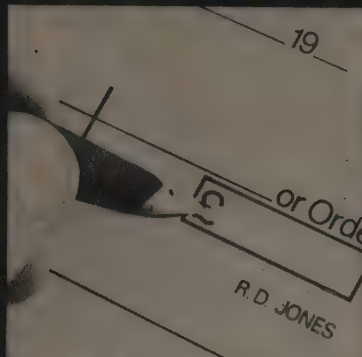
Check some of the discounts you might be eligible for . . . A 20% discount if driving is restricted to husband and wife. A 10% discount if you are over 60, or if your car is over 6 years old. A no-claims discount up to 65% perhaps . . . or substantial occupational savings. You can pay by instalments too . . . in fact as a motoring organisation we've tried to plan insurance to suit *you* in every way. So put that pen to good use . . . and freepost for the AA quote now.

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Eve

Occupation(s)

Employer's Business

FOR OFFICE USE ONLY

Reg. No.

Engine cc

Year of manufacture 19

Value £

When do you use your car? *Please delete the word that does not apply.

In addition to private use, will the car be used for:

(a) Driving to work on three or more days a week? NO/YES*

If YES, name city, town or suburb where you work

(b) Business use by yourself only? NO/YES*

(c) Business use by another person? NO/YES*

(d) Commercial travelling? NO/YES*

What cover do you want?

Please tick type of cover you require:

Comprehensive ☐ Third Party Fire & Theft ☐ Third Party Only ☐

If you wish to reduce the premium by bearing the cost of any damage to your car indicate (✓) the appropriate amount:

up to £25 ☐ up to £50 ☐ up to £100 ☐

Please indicate (✓) who will drive the vehicle:

(a) Yourself only ☐

(b) Yourself and wife/husband only ☐

(c) Yourself and one named driver only ☐

(d) Any licensed driver ☐

In the case of (b) and (c) please give details of other driver or in the case of (d) of youngest known driver.

Age yrs.

Length full UK Driving Licence held yrs.

When would you like cover to start? day month year

(Indicate when your present insurance ends).

On that date:

(a) How old will you be? yrs.

(b) How long will you have held a full UK driving licence? yrs.

(c) Have you been resident in the UK for 3 or more years? NO/YES*

(d) How many years No Claims Discount will you be claiming in your own right? yrs.

Have you or any other person who will drive the car:

(a) Been convicted or have pending prosecutions for a motoring offence? NO/YES*

(b) Been involved in any accident or loss, regardless of blame in the last five years? NO/YES*

(c) Suffer from any physical disability or infirmity e.g. heart disease etc? NO/YES*

If you answered YES to (a), (b), or (c), please give details on a separate sheet.

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FOR OFFICE USE ONLY

Command performance

ROBERT AND LINDA FARR are the sort of customers that car makers must dream about. After spending 'a small fortune' during the latter part of their 25,000 miles of Austin-Morris Princess 1800 ownership, they were still brand-loyal enough to buy its big Mk2 sister, the Princess 2000HL, just a year ago.

The Farrs had accepted a test drive in the 2litre car 'just to keep the salesman happy' — and enjoyed it so much that they roamed the roads of their home town of Farnham, Surrey, for an hour, clinching the deal on their return. The new car cost £4673, including road tax, mudflaps, underbody rustproofing and the luxury of power steering, and their trade-in 1800 was worth £2000. That made it an economical buy — but would it prove to be a wise one in the long run?

If the Farrs were prepared to give Austin-Morris a second chance, we just had to admit them to our Long-Term-Test Club.

Check 1

The Princess's debut was impressive — until it went up on the ramp: AA engineer Bernard Tasker couldn't miss the severe oil leak at the gear linkage's remote-control entry plate. On the road, too, there were problems — a misfire under load and an obstinate reverse gear — but Tasker was content: 'This is a good car, marred only by signs of skimmed preparation such as paint blemishes; and, as Mr Farr rushed the dealer, I suppose I can forgive these faults.'

Check 2, at 1528 miles

Roger had been back to the Wadham Stringer garage in Aldershot, Hampshire, to have the oil leak cured. He told us: 'The repair held for a couple of weeks, but then it started leaking again. This time, the garage said that it was just a case of tightening a nut — but that particular cure didn't last five minutes.'

AA engineer Charles Stubbs reassured him: 'While there is oil seeping from the transmission housing's flange, and around the gearchange rod's flange at the rear of the gearbox, there is no significant oil loss; but obviously it's better for Roger if these leaks are rectified under warranty.'

Stubbs noticed that the vinyl rooflining was coming adrift at the rear screen pillars, but things improved when he looked through the all-seeing endoscope into door interiors and box sections: the underbody rust protection had been well applied. Our expert was enthusiastic: 'This car impresses as being comfortable and well-made — an impression that's confirmed when driving it.

Roger's car seems to be a good example of a Princess.'

Check 3, at 3064 miles

Linda Farr now had some complaints: 'The boot lid has to be slammed to stay shut, and, when I press the accelerator, the car just coughs and splutters.' The problem was engine misfiring when idling, cruising at low speed or accelerating hard. Equally seriously, the left wheelarch's insert rubbed on its tyre during fast righthand cornering, and the camshaft's drive belt fouled the engine, making a continual irritating noise.

The vinyl roof was still sagging, and the paint used to retouch some scratches had oversprayed on to the body trim. There was now another oil leak — from the drain plug — and the underbody rust protection on the gear shift's

supporting box had been softened by the oil that had originally leaked from the seal of the now oil-tight gearshift rod.

Check 4, at 4400 miles

Little problems were now overshadowed by one big one. Linda had been on her way to fetch her children from school when an elderly driver behind her managed to run into the shiny new Princess no fewer than three times. The Princess was driveable, so the Farrs took it in to Wadham Stringer's of Aldershot for an estimate; they were told to come back the next day as the estimator wasn't there. When they returned there was still no estimator. The furious Farrs headed for Swain and Jones of Farnham, where they had to leave the car for 10 days.

Roger went back on the

appointed day. 'My car was filthy,' said Roger. 'No shine to it at all. The boot's mat was screwed-up and dirty, the repaired wing had a visible groove, and the driver's door while it had been scratched, had acquired a new scratch.' The garage manager placated him, promising that an extra 24 hours would make all the difference.

Roger returned to collect his car. It looked better — but less than perfect. 'For a while, I lost all interest in my car,' said Roger. 'It was no longer the machine I had been so proud of. Then again, if I took it back to the dealer I would have had the bother of being without transport again.'

AA engineer Bernard Tasker was able to be more objective: 'The repair had been carried out to a reasonable standard, but certain discrepancies do show insufficient attention to detail.' He also found water in the tool compartment; the boot lid misaligned with its surrounding panels; the 2000HL badge loose; the vinyl trim at the top of the boot lid damaged; the wiring loom insecure; the damaged join between the offside-rear panel and wing still unrepaired; masking-tape paint joins visible; blemishes in the

continued on page 66

...and DRIVE's royal family

While the Farrs were commuting around Surrey, DRIVE followed the fortunes of five AA-owned Princess 2000HLs that were earning their keep in Scotland, the Midlands, Wales, N Ireland and southern England — the last run by the Editor...

BHX 760T — Scotland, N Ireland 'My Princess has been performing well over the last two months, but, in the past year, it has been off the road for almost 2½ months in total with lots of faults. And, during the winter, I had starting problems which were resolved by fitting electronic ignition.'

BHX 761T — Wales, W Country 'I have nothing but praise for the Princess 2. I think its overall design is splendid, and it's the only car I have driven which hasn't given me backache and general fatigue after a 200-mile journey. I must qualify this by saying that headroom could do with raising an inch or two. Unfortunately, my car burns a pint of oil every 300 miles, and its petrol consumption ranges from 23mpg on local journeys to 28mpg on motorways. And one weakness on my previous Princess appeared on this one, too: the alternator's bracket fractured.'

BHX 762T — Midlands 'My overall consumption has

been 28.7mpg — not bad for a 2litre car. This Princess has been like the curate's egg — good in parts. There have been no major mechanical problems, but a fair number of minor difficulties. The driver's seat has always rocked and the garage says it is a common fault of the multi-positioning mechanism that can't be cured. I also find it impossible to judge the length of the car when parking — even though this is my second Princess.'

AYP 463T — Scotland, N Ireland 'On the whole, I have been satisfied with my Princess, and its spacious interior is a decided advantage. The body design makes parking difficult, though, and, at 27,000 miles, I began to experience engine problems. In the end I had to have a reconditioned engine, but, as far as servicing and repairs are concerned, I am very satisfied with the local Austin-Morris garage.'

AYP 460T — southern England 'This is my second AA Princess, and it performed well — a huge improvement on my previous 1800HL — until The Accident.'

'As we reported a year ago, its gleaming black body was steam-rolled by a lorry when only 3000 miles had been recorded. After repairs that totalled £3084, I was assured that I should find the car

better than new: it was, after all, now handbuilt, with a new body.'

'My car has always been an easy starter, and its relaxed motorway cruising is impressive. However, any run through 'normal' London traffic sees the needle of the temperature gauge shooting off the scale. And, when coming to rest after a long spell in dense traffic, the car shudders, and groans just like an animal.'

'Repairs since the crash rebuild have included a new bracket for the alternator when the original sheared off; a new cylinder head in an attempt to cure the overheating in traffic (only partially successful); and repairs to the driver's door window glass, which twice has come out of its frame — once upwards and outwards on to the M4, once downwards and inwards into the door trim. It has proved impossible to trace the fault that leads to the regular blowing of the main-beam element in one of the offside headlamps. The engine has gulped oil, there is rust under the boot lock and the boot lid has always been reluctant to stay shut.'

'After 16,330 miles, my rebodied Princess is running well enough, but its new paintwork has begun to look a bit sad.'

Right: DRIVE editor Tony Peagam's Princess after only 3000 miles. But it rose from the ashes to complete its Test year.



paintwork; damp in the nearside rear footwell; a nut and bolt missing from an exhaust clamp; noise from the power steering's pump; and excessive play in the steering.

It looked as if someone was going to be busy . . .

Check 5, at 5901 miles

. . . and Swain and Jones started with the bodywork. 'But when I got the car back,' said Roger, 'the boot lock wouldn't lock, so back it went again. Now, the lock works — but it's loose . . .

'I complained to Wadham Stringer about the misfire, too.'

Roger also complained about its fuel consumption: 'I am getting 20mpg instead of the 27mpg I

expected for urban driving.' Engineer Tasker took one look at the sooty exhaust pipe, and connected a carbon-monoxide meter. The engine was started, and the meter's needle shot off the scale — not too good for a car that had been serviced 400 miles earlier. Roger promised to complain.

Tasker concluded: 'The bodywork repairs have been improved, but they are still not beyond criticism. In my opinion, it is essential that the area under the repaired rear wing should at least be painted to prevent deterioration, and the missing clip should be fitted to the boot lock. The nearside footwell is still damp — the Farris should pester

the garage until this dries up — and the steering pump's deficiency has not been seen to. However, my overall impression is of a good car that should give reliable service.'

Check 6, at 8200 miles

Vandals had now modified the Farris' Princess, stealing one of its windscreen wipers and attempting to force an entry through the driver's window. When Roger wound it down, it vanished permanently into the door . . .

Roger had been back to Wadham Stringer to complain about the steering's excessive play, but was told that there was nothing wrong. Tasker had other

ideas. 'I suggest that the rack's clamp bolt should be checked for tightness. If this does not stop the problem, I fear a new rack assembly may be needed. However, my reservations on this point should not detract from what is an otherwise excellent vehicle.'

And the Farris? Their allegiance to the Princess is unshaken. 'Our dealer has been very helpful over the year,' says Roger. 'We are on such good terms with the salesman there that we all play bowls at the weekend.'

'I'd like to move up to a Rover, but I can't afford that yet, and we couldn't go to a smaller car now, so we'll stick with our Princess.'

Per ardua ad Astra

DRIVE's Long-Term-Test Club welcomes a young man who found that the hardest thing about choosing his new car was getting a dealer who would listen to him

WE PREDICT red faces among car salesmen in the Lancaster area, when they recognise our latest Long-Term Clubman. For Adrian Cable's only problem in buying a new car was convincing dealers in his home town that he really could afford the car of his dreams. It wasn't Adrian's state of dress but his 24-year-old looks that caused some scepticism as to his ability to find the £4000 required.

'I'm interested in one of those,' he told one dealer in a well-stocked showroom.

'Aren't we all, sonny,' said the salesman, turning his back.

In fact, Adrian Cable is a fully qualified dentist, back in his practice after 18 months as a pilot in the RAF, and he had £6000 to spend on a new car. . . He didn't intend to trade in his 1976 Triumph Stag, either, as he wanted to take his time putting it right before selling it privately.

In the end, Adrian found civilility and a car from a Vauxhall dealer with an Astra GL.

But why change from a classic soft-top to a five-door hatchback? Adrian told us: 'Once you have been a jet pilot, sports cars really don't have much to offer. I know it's nice to cruise through town with roof off and stereo blaring, but the price and insurance make ego-tripping expensive.'

'I considered a Ford — perhaps a Fiesta, or even a Capri — but dealers' discounts were too small. I liked the Honda Civic, as it seemed so well-priced, but it was the same story — and there was a terrific waiting list. I could have afforded a new Rover, but I thought that it would depreciate too quickly for me, so I was left with a choice between the Renault 14 and the Vauxhall Astra. The Astra was cheaper on parts and to insure, there are plenty of Vauxhall dealers in my area, and I was impressed by the

hatchback version's sporty feel and space — ideal for transporting myself and three friends on shooting and hang-gliding trips.'

One Lancaster dealer offered Adrian a 15% discount on the car, but said there would be a delay on delivery, so Adrian secured the same deal from the Syd Abrams garage in Manchester — plus an extra £100 off and the prospect of immediate delivery. He was on the road for £4242.28, including the option of metallic paint.

Collecting the car on 12 June could have been easier. The garage was in a panic over someone's bouncing check, and Adrian had to hang around for two hours — after which he discovered that the rustproofing treatment he had ordered had been forgotten. He decided to leave his car untreated, and secured a £57 refund.

His own inspection of the car revealed a screwdriver missing

from the tool kit, a screw missing from a carpet clip, adhesive on the horn button and wax on the windscreen. Confidently, Adrian delivered his Astra for a professional inspection by engineer Alan Haynes at the AA's vehicle inspection centre at West Bromwich, W Midlands.

Haynes produced a somewhat longer list of post-delivery faults: the alternator's drive belt was slack; the battery's positive terminal corroded by acid; the steering column's top cowl insecure; door hinges requiring lubrication; both headlamps aimed illegally to the right; both rear doors standing proud of the body; the rear fog-lamp misaligned; the rear numberplate rattling against the tailgate (which could lead to paint damage and rust); the bonnet poorly aligned and paint-damaged in two places; oil seeping from the gearbox sump gasket; the brake

load-limiter valve loose on its mounting bolts; and the exhaust pipe creaking when it flexed.

Things improved on the road test, when a slight steering pull to the left, particularly under acceleration, was noticed but marked as interesting rather than worrying. Haynes reassured Adrian: 'My initial impression is that this is an excellent car — typically German in its quality of build. The faults I have listed are very minor and should be easily cleared-up by the dealer — though the majority of them should have been found at the pre-delivery inspection.'

Over the next 12 months, DRIVE will be checking up on the rectification of these faults, and charting the Astra's progress with five more AA engineers' inspections, to be summarised in DRIVE in 12 months' time.



Boots on for Alpine rescue

Talbot Solara GL 1.6

Price £17,995. 0161 271 1114

Talbot's best-selling car is the 1442cc Alpine hatchback, which is no mean feat in a British market that's dominated by the 1600cc saloons beloved of car-fleet managers. The snag is, Talbot's best effort earned only 14th place in last year's sales chart, trailing behind nine conventional, booted rivals. Peugeot-Citroen, Talbot's new owners, expected better things of its acquisition...

How could Talbot get a boot through the doorway to bigger saloon sales quickly? By following Volkswagens' lead in rear-end redesigns and restyling the already spacious Alpine. Then, by enlarging the tried-and-trusted engine to the magic 1.6litre mark, throwing in a 1300cc unit to lure the more-miserly fleet buyer, and offering two states of tune for the 1600cc unit, Talbot made the Solara — a new range of seven cars

fit to do battle with Ford's Cortina and Vauxhall's Cavalier.

We chose the Solara GL 1.6, direct competitor to you-know-who's GL, and looked beneath its attractive facelift at the familiar engineering underneath.

How it goes

Under its skin, the Solara GL is almost pure Alpine. The most significant change is the engine's enlargement to 1592cc — not that the 1442cc unit is slow or lethargic, just unacceptably raucous and fussy for a family hack. While the more-expensive GLS and SX versions have a twin-throat carburettor and healthy 87bhp output, the GL 1.6 has only a single-throat Solex, a lower

compression ratio and 18bhp less claimed power than the current 1442cc Alpine.

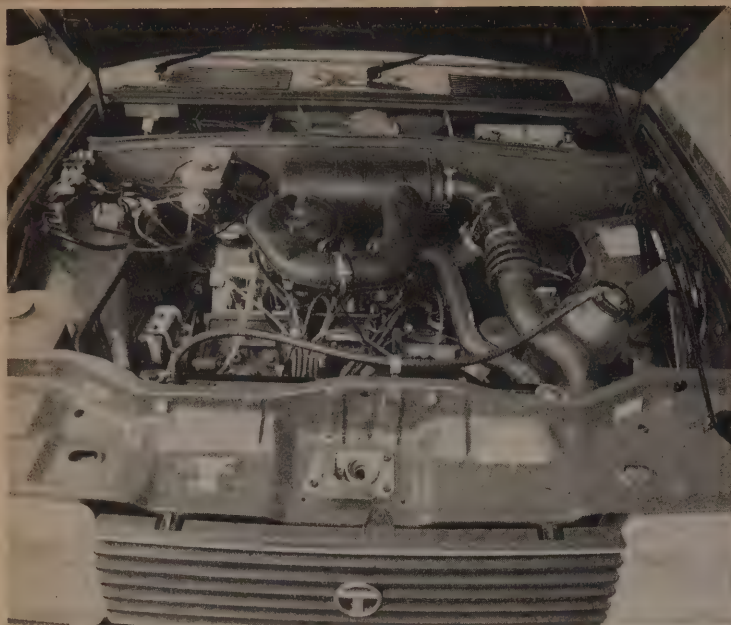
Fortunately, sheer bhp isn't everything: while our Solara was 3mph down on the comparable Alpine's top speed, its acceleration through the gears is virtually identical, and top gear pull-away from as low as 25mph is distinctly more sprightly — all of which enables this Solara to look its market rivals (overpage) straight in the eye.

Just as importantly, the enlarged engine sounds more subdued and relaxed when cruising, despite its surprisingly low overall gearing. Admittedly, it still emits a rorty throb when hurrying through the gears, but it can

now cruise quietly at any speed up to 65mph. Starting can call for some seconds' cranking when the engine's hot but, otherwise, there are no suburban stop-start engine problems.

The welcome power-unit revisions make the unchanged four-speed Alpine gearbox all the more unacceptable. The obstructive nature of the gear change is the Solara's worst feature. That which was once disappointing but understandable in a front-wheel-drive car is inexcusable in 1980. Talbot's intended buyer, the car fleet manager, will have a hard time placating reps used to the slick box of a Vauxhall Cavalier or Ford Cortina. It could pay buyers to avoid this argumentative lever by delaying their purchase until later this year, when a slicker five-speed gearbox from the Peugeot-Citroen-Talbot





co-op should be available.

Once you've developed a strong left arm, you'll have time to appreciate the Solara's cockpit. The driving position is high and commanding in relation to the steering wheel, which should appeal to shorter people, and there's also generous rearward seat travel and good posture support. The two tandem-mounted column stalks for indicators and lamps are less than ideal: it's too easy to lose one behind the other, or assume that one stalk is hiding behind the other when it isn't. . . . On the other side of the steering column, the wash-wipe stalk has no intermittent wipe provision, but driving vision is good, with a remotely controllable door mirror that has sensible separate trimmers for vertical and horizontal adjustment. The clearly marked instruments look impressive, but we were disappointed to find the speedometer and distance recorder exaggerating grossly: by 5mph at 30mph and by 7.3% respectively — enough to distort apparent fuel consumption by 2½mpg!

The accelerator pedal offers stiffer sprung resistance the harder you press — something of a fuel economy aid itself, though we were not convinced that it does much for the driver's leg muscles. . . .

The ultimate disincentive to hustling the Solara around tortuous roads is its weighty steering, which gets distinctly heavier as you apply the second armful of lock — and there's no light relief when you increase speed or merely park the car. Combined with the gearshift, this can make the Solara heavy going for some ladies, especially around town. If keen drivers have got the brawn, however, they'll appreciate the way the Solara grips the road

through bumpy bends, with handling precision superior to a Ford Cortina's or a Renault 18's.

How comfortable

The Solara's ride has little instant appeal. Indeed, its progress can feel harsh and knobbly on quite ordinary roads. But keep driving over a wider range of surfaces, with various loads aboard, and the Solara begins to shine. Though rarely completely at peace, the suspension never gets badly distressed, coping with thoroughly bad roads or a full back seat and boot without degenerating into a wallowing or hard ride. Only when you cover

HOW GOOD

At-a-glance

DRIVE's verdict on the Talbot Solara GL 1.6, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●○○○

FUEL ECONOMY

●●●●●●●●○

HANDLING/STEERING

●●●●●○○○○

COMFORT/REFINEMENT

●●●●●○○○○

INTERIOR/LUGGAGE SPACE

●●●●○○○○○

PASSENGER AIDS

●●●●●○○○

DRIVER AIDS

●●●●●○○○○

ACCIDENT/INJURY SAFEGUARDS

●●●●○○○○○

RUST RESISTANCE

●●○○○○○○○

COST/EASE OF REPAIR

●●●●●○○○

the same ground in a lesser car do you realise how well the Solara has been coping.

We have always thought highly of the Alpine's folding rear seat, so it would have been surprising if the Solara's simpler, fixed rear bench had proved uncomfortable. It was no disappointment, being well-shaped, with an almost-flat floor and, for the GL, a central folding armrest. However, it isn't an improvement over the Alpine's as legroom is just about identical, and only headroom is a little better. There's a second roof lamp at the back of the GL, but not rear-door courtesy switches to operate it automatically, and we would like to see the front doors' armrests used at the rear, too: they are far more helpful than the passengers' roof-level grabhandles.

Talbot's hatchback-to-boot conversion is surprisingly unimaginative. There's only the same room as in an Alpine with its rear shelf in place, and load height is limited by the location of the petrol tank and spare wheel. A courtesy lamp reveals that there's not sufficient height to stow any decent-sized suitcase upright, and the high-silled boot has to be opened by key every time. Provision for stowing odds-and-ends is ungenerous, too.

The Solara's pleasantly subdued engine is complemented by good wind-noise suppression. This is one of those rare cars in which cruising at 50mph-plus with windows partially lowered does not require an Edwardian motorist's goggles and cap — worth remembering if you really can't afford Talbot's optional steel sunroof at a not-unreasonable £156. Interior trim is unashamedly plastic everywhere, well-made and fitted with injury prevention much in mind. In GL form, one gets only a modest tally of creature comforts, but we were impressed by the quality of the standard radio, the accuracy of the quartz clock and by little considerations such as the separate ducting of warm air to rear footwells.

Everyone gets enough warmth, even though it's not of the sock-scorching calibre. In summer, you'll need those helpful windows down as the ventilation system is incapable of dealing with really warm weather.

How strong

Our paintwork and rust-prevention experts found little to please them in our almost-new test car. There were wide variations in panels' paint thickness, many surfaces had a distinct orange-peel finish, and carelessly daubed mastic around door seams and edges may have been applied to prevent water ingress. If so, it

TALBOT SOLARA GL 1.6

Parts/repairs (inc VAT)
clutch £45.76 (fitting 2hr)
exhaust £52.90 (0.7hr)
headlamp unit £30.48 (0.4hr)
front bumper (3 sections) £48.30 (0.8hr)
laminated windscreen £53.47 (0.7hr)

oil filter (no points) £3.91 (0.3hr)
major service 10,000 miles (2.83hr av)

Insurance group 4

Warranty 12 months/unlimited mileage, including free breakdown recovery.

Standing costs per year/12,000 miles

Loss of value £355
Capital interest £337
New-cost inflation £540
Total depreciation=£1231 (10.26p per mile)

Running costs

Petrol (£1.38 per gal) £466
Insurance (av) £165
Road tax, AA sub £60+£26
Servicing/replacements £166
Total running costs=£883 (7.36p per mile)
Cost of ownership £2114 (17.62p p mile)

HOW IT COMPARES

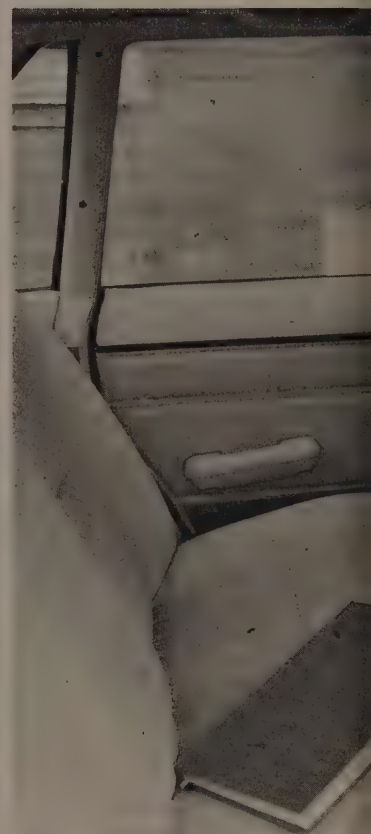
Talbot Solara GL 1.6

Ford Cortina 1600L

Vauxhall Cavalier 1600 GL

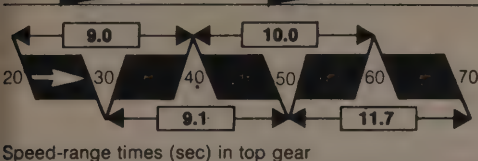
Renault 18TS

Honda Accord 4-door



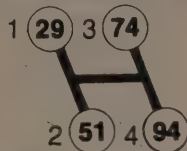
ACCELERATION times in sec

MPH	THROUGH GEARS	IN TOP GEAR
0-30	4.4	
30-40	2.1	4.5
30-50	5.1	9.1
30-60	9.9	14.5
30-70	15.6	20.8



TOP SPEEDS

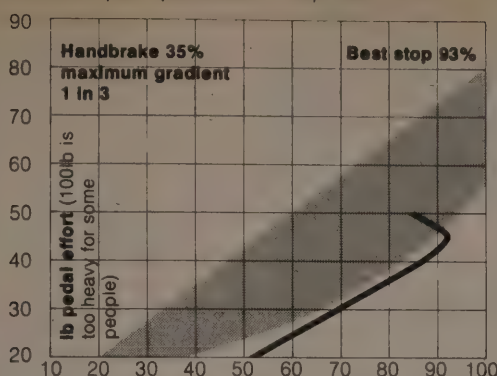
max engine speed
used 6000rpm
max in top 5750rpm
standing ¼ mile
19.7sec



ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (%G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
4914	1592	35½	94	15.8	20.8	92/45	14' 5"	40½	39½	4¼/35
4591	1593	33½	91	17.9	26.1	97/35	14' 3"	41	39	3¾/34
5339	1584	31	96	13.3	25.4	100/35	14' 7½"	40	37¾	3¾/34
4997	1647	35½	97	14.0	21.7	98/55	14' 4"	40	36¾	3½/33¾
4599	1602	35	93	15.9	21.5(4th)	88/40	14' 3"	40	37¾	3½/34¼

4th=fourth-gear time

BRAKES pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)

33lb at start; 33lb in constant use; 73lb in severe use
Watersplash 60lb at first, 3 stops to recover

FUEL 4-star/97 octane min

Consumption — normal range

hard driving, heavy traffic	29mpg
short journeys in the suburbs	30mpg
motorway — 70mph cruising	32mpg
brisk driving, mixed roads	36½mpg
gentle driving — rural roads	42mpg

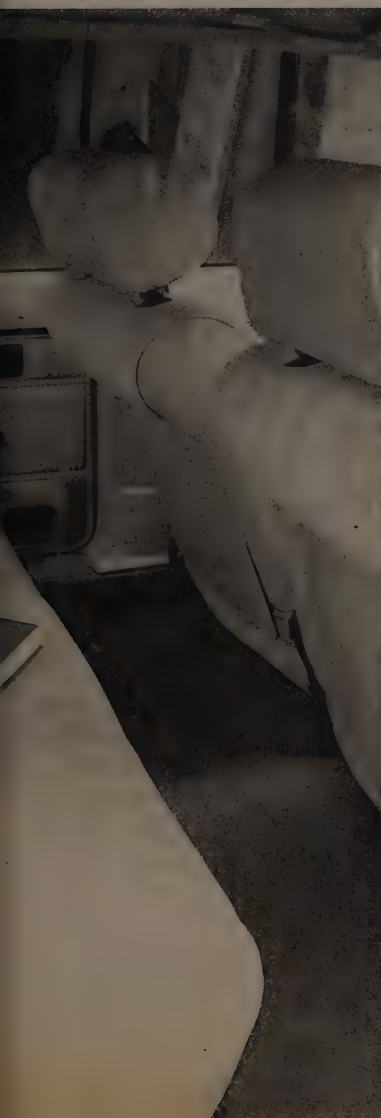
Typical mpg overall 35½mpg
Realistic tank range 400 miles/11¼gal

Consumption at steady speeds

30mph	55mpg
56mph	39½mpg
70mph	32mpg
max mph	20mpg

SAFETY CHECKS O=factory-fitted option

steering: energy absorbing?	Yes	head restraints: front?	Yes
good road 'feel'?	Yes	rear?	No
brakes: powerful?	Yes	interior: well padded?	Yes
sensible effort?	No	w/screen: laminated?	O
fade resistant?	No	doors: childproof?	Yes
belts: effective?	Yes	latches crashproof?	Yes
convenient?	No	petrol: shielded	
fitted in rear?	No	filler?	Yes
		protected tank?	Yes





wouldn't be up to the job... Underneath, a brief blow-over with a brittle, bituminous compound was Talbot's token resistance to the rustbug — apart from normal priming and painting. No attempt had been made to inject wax into box sections or door interiors, or design-out the known Alpine mudtraps.

All current Talbots use contactless electronic ignition — a system that has not been without its troubles on earlier cars. Fusing seems a bit primitive, but we approve of the semi-sealed cooling system and a facia lamp that indicates front brake-pad wear.

The AA's long-term, high-mileage Alpine proved its engineering to be reasonably durable except for gear-change problems and valves that needed regular adjustment. The new, less-stressed Solara engine can therefore lead only a happier life.

The absence of chromeplating makes Solara washing easier, but our car's dark bumper shields scuffed off their topcoat, revealing a lighter shade beneath.

How safe

We were most impressed with the thoroughness of the Solara's safety padding: it has the Alpine's

unusual, moulded headlining, which extends well forward to cover the often-bare area of the upper screen surround. The backs of the front seats are reinforced, there are no nasty protrusions, and two excellent foglamps are in the rear lamp clusters.

The seatbelts are extremely comfortable, but their effectiveness depends on how you wear them. The worry is that, if the belt is run outside the seat-reclining lever, the lever could give in a crash, so letting the wearer be thrown further forward than he should be. It's best to run the belt up the nearside of this lever, closer to the seat, but then it stows untidily and gives you a nasty dig in the hip every time you get in the car. We're worried that people won't wear the belt properly — if at all.

The Solara's steady cornering, which calls for more steering muscle the faster you go, feels inherently safe and stable. Even when you overdo it, the car gently toes the line when you lift off the accelerator abruptly.

Brakes as servo-assisted as the Solara's flatter the driver's leg muscles in everyday situations, but require undue delicacy in an emergency to avoid lock-up and

skidding. Then again, they do suffer from fade — quite markedly after a couple of high-speed stops — so, at such times, the enthusiastic servo's help is welcome. The handbrake's behaviour is better, holding the car securely up or down a 1-in-3 hill; the Solara only just manages a restart up this gradient, however.

How much?

If anyone still believes that less litres means less fuel used, then learn from Talbot. The Solara GL1.6 may have gone up by 158cc, be no higher-geared, and only fractionally lighter than the Alpine, yet it's almost 11% more economical. Its most notable improvement is in suburban, short-journey driving, where it squanders less petrol in the warm-up period. Five years ago, a 1.6litre family car averaging better than 35mpg would have been unique, but today the Solara shares this honour in our chart with two or three others of similar size. (The only one we haven't listed is the dearer VW Passat/Audi 80).

Like the VW/Audi, a nice bonus with the Solara is a generous tank capacity that makes 400 miles entirely feasible before the low-fuel-level warning lamp lights. We found it too easy to refit the non-locking cap incorrectly, though, allowing expensive, smelly spillage.

Depreciation can be assessed only on the basis of the Alpine's record. This has done less well over the last couple of years than its cousin-by-marriage, the Peugeot 305, and Ford's Cortina 1600GL, but then it is a five-door hatchback, which some buyers still shun.

Spares prices are thoroughly competitive with the established saloons beloved of fleet managers, and the fitting times reveal that this front-wheel-drive layout creates no accessibility problems for routine work. Talbot's 12month/any-mileage warranty covers parts such as clutch, brake and exhaust components, which other makers exclude; this benefits mainly higher-mileage

motorists, however. The recommended 2.83hr major service time does not include valve adjustment — only checking; adjustment seems likely every 10,000 miles if our experience of the Alpine is anything to go by. If you feel like tackling the job yourself, a few special tools will be needed, such as Allen keys for sump plugs, and a timing lamp. Though the owners' handbook is of only limited help to home mechanics, it does advise on how to get a good workshop manual.

Verdict

The Solara is handsome and roomy, with an impressive engine that propels it down the road in a very competent and economical fashion. But, after such a promising start, too much of the Solara's story is one of missed chances.

The very reason for the Solara's existence — its boot — is disappointing; its scant rust protection is unlikely to endear itself to long-term private owners, and its appalling gear change is not the way to earn new friends.

Admittedly, there will soon be a new and better box, but then one must wonder why Talbot launched such an important new range without it. Perhaps the lesson of the Austin Maxi's early years has already been forgotten.

These three faults could be enough to hold a good car down.

ENGINE

Type and size front-mounted, 4-in-transverse-line, water-cooled; 80.6mm bore x 78.0mm stroke=1592cc; 5 main bearings, iron block/alloy head

Compression ratio 9.35:1

Valve gear chain-driven side camshaft with pushrods and rockers

Fuel system one Solex single-throat carburettor fed by mechanical pump from 12½gal tank, with low-petrol-level warning lamp

Max power (DIN-net) 72bhp at 5200rpm

Max torque (DIN-net) 96lb ft at 3000rpm

TRANSMISSION

Clutch 7½in diaphragm spring, single dry plate, hydraulically operated; pedal load/travel: 28lb/5¾in

Gearbox 4-speed (all synchromesh) and reverse. Ratios: first 3.17:1; second 1.83:1; third 1.25:1; top 0.94:1, reverse 3.15:1

Final drive helical-spur gears; 4.21:1 to front wheels

Mph per 1000rpm 16.5 in top gear

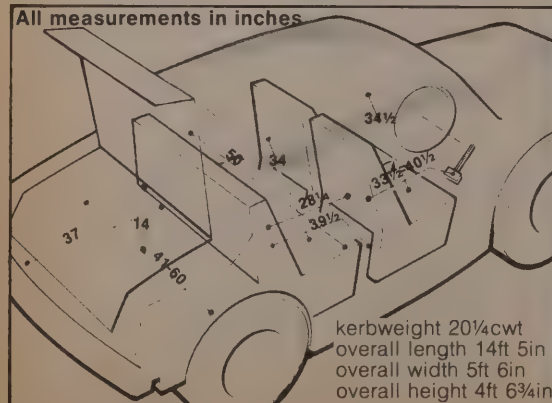
CHASSIS

Suspension —front: independent wishbones with torsion bars, anti-roll bar. Rear: independent triangulated trailing arms with coil springs and anti-roll bar. Dampers: telescopic all round

Steering rack and pinion; with 4¼ turns between full locks. Turning circles average 35ft between kerbs, with 70ft in response to one turn of wheel

Wheels 5J steel with 155 SR 13 radial-ply tyres (Goodyear Grand Prix S on test car)

Brakes dual-line hydraulic: discs front, self-adjusting drums rear, with load-sensitive rear valve and vacuum servo; warning lamps for low fluid/handbrake on and worn pads



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Together - Now bringing you the superb **SANYO** in car radio/cassette systems at ridiculously low prices. So don't spend your hard earned money on unknown brands when you can now purchase a genuine **SANYO** unit at previously unheard of prices. Not so long ago, you could have paid up to double **TRACK ONE**'s prices. How do we do it? We have purchased **SANYO**'s entire stocks of the units on offer - That's a lot of car radios, so we are able to make this unique and exclusive offer to **TRACK ONE** customers. We have 5 units to offer ranging from LW/MW stereo cassette model FT6045 at just £39.95 to the all stereo push button autoreverse FT4687 at £89.95. We think that you will agree that **TRACK ONE** does live up to the claim of indeed offering the best deal on in-car entertainment.

All **SANYO** products are guaranteed for 12 months by

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SANYO FT4647 PRICE £69.95



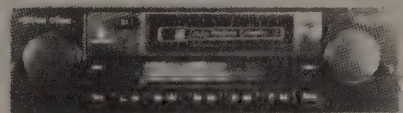
FT4647 LW/MW/FM Stereo radio. 5 preset stations 1LW 2MW 2FM mono/stereo switch Stereo cassette locking F/fwd & Rwd. - Output: 7.5 watts per channel Wow & Flutter 0.3% RMS.

SANYO FT6045 PRICE £39.95



FT6045 LW/MW radio with stereo cassette. Locking F/fwd and Rwd. - Output 6 watts per channel.

SANYO FT4687 LW/MW/FM Stereo radio. 5 preset stations 1LW 2MW 2FM mono/stereo switch.



Auto Reverse cassette deck with twin LED tape directional indicators. Locking F/fwd and Rwd. - Output 7.5 watts per channel. Wow & Flutter 0.3% RMS
PRICE £89.95

Also available:-

SANYO FT4320 MW/FM Stereo radio with stereo cassette Locking F/fwd.

£45.95

SANYO FT6067 LW/MW/FM Stereo radio with stereo Autoreverse cassette Locking F/fwd & Rwd.

£59.95

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	Interest	Total Repayable	Monthly Instal.	Interest	Total Repayable	Monthly Instal.	Interest	Total Repayable	Monthly Instal.	Interest	Total Repayable	Monthly Instal.	Interest	Total Repayable	Monthly Instal.	
£	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£
1000	145.04	1145.04	95.42	290.00	1290.00	53.75	450.08	1450.08	40.28	599.84	1599.84	33.33	750.20	1750.20	29.17	1000
950	137.80	1087.80	90.65	275.44	1225.44	51.06	427.36	1377.36	38.26	570.16	1520.16	31.67	712.60	1662.60	27.71	950
900	130.56	1030.56	85.88	261.12	1161.12	48.38	405.00	1305.00	36.25	540.00	1440.00	30.00	675.00	1575.00	26.25	900
850	123.20	973.20	81.10	246.56	1096.56	45.69	382.64	1232.64	34.24	509.84	1359.84	28.33	637.40	1487.40	24.79	850
800	115.96	915.96	76.33	232.00	1032.00	43.00	359.92	1159.92	32.22	480.16	1280.16	26.67	599.80	1399.80	23.33	800
750	108.72	858.72	71.56	217.44	967.44	40.31	337.56	1087.56	30.21	450.00	1200.00	25.00	562.80	1312.80	21.88	750
700	101.48	801.48	66.79	203.12	903.12	37.63	314.84	1014.84	28.19	419.84	1119.84	23.33	525.20	1225.20	20.42	700
650	94.24	744.24	62.02	188.56	838.56	34.94	292.48	942.48	26.18	390.16	1040.16	21.67	487.60	1137.60	18.96	650
600	87.00	687.00	57.25	174.00	774.00	32.25	270.12	870.12	24.17	360.00	960.00	20.00	450.00	1050.00	17.50	600
550	79.76	629.76	52.48	159.44	709.44	29.56	247.40	797.40	22.15	329.84	879.84	18.33	412.40	962.40	16.04	550
500	72.52	572.52	47.71	145.12	645.12	26.88	225.04	725.04	20.14	300.16	800.16	16.67	374.80	874.80	14.58	500
450	65.28	515.28	42.94	130.56	580.56	24.19	202.68	652.68	18.13	270.00	720.00	15.00	337.80	787.80	13.13	450
400	58.04	458.04	38.17	116.00	516.00	21.50	179.96	579.96	16.11	239.84	639.84	13.33	300.20	700.20	11.67	400
350	50.80	400.80	33.40	101.44	451.44	18.81	157.60	507.60	14.10	210.16	560.16	11.67	262.60	612.60	10.21	350
300	43.56	343.56	28.63	87.12	387.12	16.13	134.88	434.88	12.08	180.00	480.00	10.00	225.00	525.00	8.75	300
250	36.32	286.32	23.85	72.56	322.56	13.44	112.52	362.52	10.07	149.84	399.84	8.33	187.40	437.40	7.29	250
200	28.96	228.96	19.08	58.00	258.00	10.75	90.16	290.16	8.06	120.16	320.16	6.67	149.80	349.80	5.83	200

Above rates effective as at 1st July 1980

Ref: AD10411 (3/80)



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Full postal address _____

Postal Code _____ Tel. No. _____

How long at present address? _____

Owner ☐ Tenant ☐ House ☐ Flat ☐ Rooms ☐ Living with parents ☐

Profession or trade _____

Name of employer _____

Business address _____

How long in their employ? _____

Bankers _____

Bankers address (in full) _____

Do you hold a Barclaycard? YES ☐ NO ☐

DEPT. SERIAL NO. CHECK DIGIT

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Occ. Code

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AA Membership No. _____

Purpose of loan (give details) _____

Total cost of goods or service £ _____

Amount of cash required £ _____

Repayment period required in months _____

Average net monthly take-home pay (i.e. after deduction of Income Tax, N.H.I. Contributions, etc.) £ _____ monthly

Any other income £ _____ monthly

Please submit your latest P.60 or other annual advice or at least two monthly/weekly pay slips.

Mortgage payments/Rent £ _____ monthly

Credit payments £ _____ monthly

Any other regular payments £ _____ monthly

Give details _____

I/We submit this proposal to you for a loan of £..... and I/We warrant the accuracy of the replies. You may make all enquiries necessary to enable you to consider this application and from time to time disclose to the National Credit Register details in respect of this transaction excluding any information relating to income. If you need to clarify any information, in the application form, or obtain my agreement to the amendment of any documents, please regard this as a formal request to visit me at my home. It is understood that you reserve the right to decline this application without stating a reason. (Membership of the Automobile Association or a previous or current account with Mercantile Credit do not of themselves ensure acceptance.)

980

SIGNATURE _____ DATE _____

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French stowaway

The idea of collapsible touring vans is hardly new. Fifteen years ago, when the folding caravan had its last — premature — birth, one of TRAIL's testers nearly severed an arm in the attempt to stop a glass-fibre panel from blowing off a well-known British make...

Now, it's the French, not the British, who are reviving the idea of folders — not the first time that the leisure-conscious French have turned a British pig's ear into a silk purse. And the front-runner of them all is André Jamet, whose range is imported by Brad-Import of Wigan.

Brad-Import introduced the 10ft Jade folder last year, and for 1980 it feels confident enough to appoint 10 more dealers and launch the 12ft Coral, too.

But why make a folding touring van at all? What makes it better than a trailer tent or a smaller, rigid tourer — which, incidentally, can be much cheaper than a folder. The answer isn't simple, but has a lot to do with lowering fuel costs for existing vanners, and winning more sales among the growing number of small-car owners. The folded trailer makes towing easier and safer for novice drivers, and the absence of rubber tensioners, pegs and poles also appeals to new campers.

Can this French connector really be all things to all campers?

How it's built

Makers of folding caravans also have to make a difficult choice. The main body of the van must be — and be seen to be — a substantial structure when assembled, but its panels must also be light enough for easy lifting and securing. In the past, many folders failed because they relied on glass fibre (too heavy if it's made rigid, and too flimsy if it's made light), or plywood, which has little customer appeal.

Technology came to Jamet's rescue in the form of Dow Chemical's Styrofoam. It makes a lightweight, rigid core, which is clad on the outside with high-impact plastic, and panelled on the inside for a decorative finish. The result is a sandwiched wall that is light, rigid, strong, durable and, as a bonus, a good insulator. It's so strong that Jamet has been able to place no

fewer than six opening windows and a door in the walls without fear of distorting the panels. Styrofoam does dictate the use of flat rather than curved walls, but that's acceptable in short-bodied vans, and the Coral's lines are already softened by the one-piece glass-fibre roof moulding that rounds-off the top edges.

Underneath, the trailer has a laminated, insulated floor that's bolted to a strong, if rough-and-ready-looking, steel chassis. TRAIL was pleased to see that the A-bar, tow hitch and jockey wheel are galvanised for long-

term durability, and it's remarkable that the entire chassis and floor is both galvanised and sprayed with a heavy mastic compound. This healthy attempt at rust protection is a great improvement on the scant spray of black paint that allegedly protects most cheap and medium-priced rigid caravans in the UK.

A folding caravan stands or falls — quite literally, sometimes — on the ease with which its collapsing mechanism works. It's no fun starting a holiday with all the family struggling in the rain to make the thing habitable on site.

To its credit, the Coral's importer doesn't make preposterous 'erected by one person in one minute' claims — yet the Coral can do just that. One adult of unremarkable strength and weight can safely erect and dismantle the Coral — and it's also possible to put only the main body of the van up in less than a minute, leaving just the fittings to be arranged at your leisure.

The assembly procedure is learnt equally quickly. With jockey wheel and corner legs wound down, unlock the rear catch that holds the roof panel and lift. As



John Mason

the roof rises on its spring and strut assisters the rear wall pops up with it, but you have to lift the front edge of the roof to raise the front wall. Then, open the main part of the door to lift the offside panel into position, and push up the remaining side. Three bolts on each wall lock to the roof, and you're home and dry, for it's a waterproof building job.

Our only criticisms so far are of the rear lock (dry and stiff on the test van, and requiring frequent lubrication to guard against reartyre spray), and the walls' cupboard-style sliding bolts (could be more elegant and positive in their location).

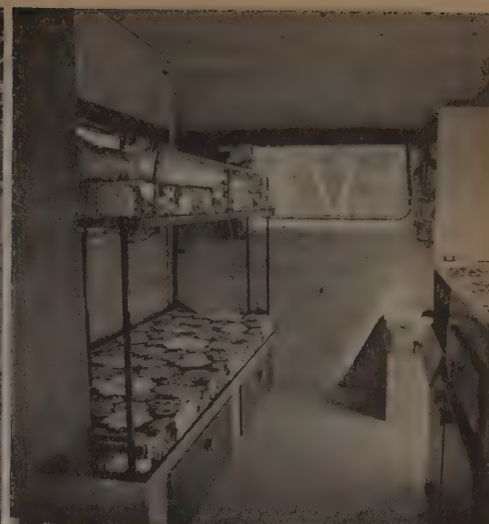
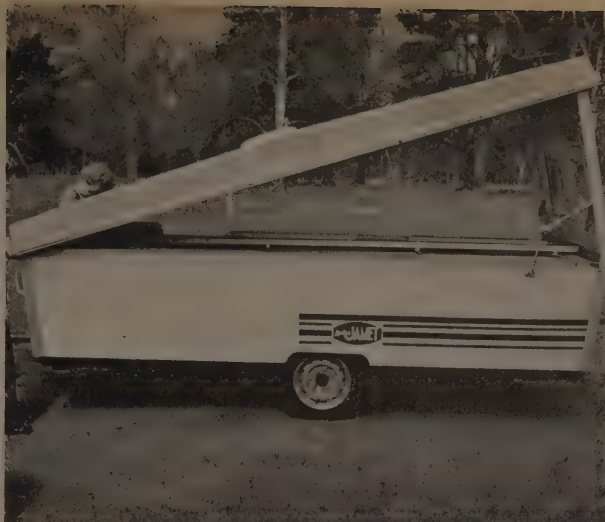
One obvious snag with a folding van is that any furniture above trailer-body level also has to be built up, but Jamet has successfully eased this chore. To the left of the door is a two-door cupboard on which stands a matching box containing a double-burner stove, grill and sink/drain. This lives on the floor in transit, and is simply lifted into position on four lugs to bring the kitchen cabinet to normal caravan worktop height. A long thin cupboard with two lift-up doors can then be clipped to the wall above the cooker with two lugs and brackets. (Experiments suggest that it might be possible to keep the upper cupboard filled ready for use — as long as the contents are unbreakable.) It remains only to lift up and lock into place the half-length wardrobe, which travels hinged and folded flat to the floor. The finishing touch is to fit five of the six windows with curtains and pelmets; the pelmets are dropped into steel slots and the curtains hung from nylon.

These simple manoeuvres — a couple of minutes' work for one person — complete the Coral, which then looks convincingly like a well-planned rigid tourer. Inside, there's little sign of the Coral's mutable shape, for the sealing and draughtproofing at joints is first-class, and there's no awkward gadgetry to give the folding game away.

Living in it

The Coral is designed for four people, two sleeping on a double bed and two on adult-size bunks. The layout is straightforward, the main seating/dining area at the rear comprising two facing benches with table between. With its crude but effective tubular leg collapsed, the table fits between the benches to form the double bed's base. Its cushions are made of a 4½in-thick foam that is not particularly comfortable for either sleeping or sitting, especially in combination with the low, vertical backrests.

Other seating at the towbar end includes a 6ft-long contraption that folds up once to form a bench seat and again to form the bunks.



Again, it's crude but effective, with little to go wrong, its angle-iron and spring-mesh base giving more-comfortable sleeping and sitting than does the main seating area. Foam cushioning here is only 2in-thick, but it's adequate on the sprung base. Facing the bench seat, to the right of the door, is a box seat padded with only a seat cushion, and between this and the bench there's a small, collapsible table that makes a cramped games or eating area.

Though the wardrobe stands three-quarters high, it doesn't extend to the ground, so restrict-

ing the effective height to only half the normal. Inside, there's just a single rail, and a mirror on the inside of the door.

Immediately to the left of the door is the kitchen area, comprising the familiar Leisure Princess double burner/grill/sink unit underneath two hinged flaps. The flaps can be locked upright, the lefthand one making a good wind-shield when the door is open, and one or both flaps can be supported on swing-out plastic brackets to extend the worktop area. It's unfortunate that the lefthand flap extends across the door, but

it's a better arrangement than hinging it backwards to block the window — as happens in many tourers. And the window over the stove can be opened fully — something we often fail to find on small tourers of any price.

Leisure's deep, round sink looks impressive — until you try to clear waste water and debris from its flat base and ridiculously tiny waste outlet. Cold water is supplied to the swivel tap via an electric pump that has to be connected directly to the water can.

Storage space is reasonable for a compact folder. Apart from the

FOLDING VAN TEST

useful top cupboards in the kitchen, there are two big cupboards without shelves, the implication being that one will take a gas cylinder, the other a water container. One of these could be freed for other uses by mounting the gas cylinder on the A-bar — if some form of fitting were provided; it shouldn't be difficult to contrive a safe platform here. There are also storage hatches in the two benches at the dining end, more under the box by the door and, more usefully, two large pull-out drawers under the long, sprung bench. Room for a foursome's needs? Only just, but then the Coral's no worse than its rigid rivals in this respect.

So far, we've been fairly complimentary about the Coral, so it pains us to have to fault its décor. Unusually, Jamet's folder has abandoned French chic for both Gallic gaudiness and drabness. The roof moulding is lined with a buttoned, beige mock-flock that's complemented by walls of equally tedious vinyl sheets printed with mock grass-cloth weave, vinyl flooring printed with imitation tiles, and melamine cabinetwork printed with a mahogany grain. In subtle contrast, the cushions are clad in a riot of orange, black and white floribunda . . .

Back on the credit side, we approved of the Coral's opening windows. Too often, TRAIL testers have to deplore the lack of opening windows in even rigid touring vans, and in particular the reluctance of UK makers to fit an opening window across the end of the van, where most seats are sited. There's no good reason for such inconsiderate designing — as Jamet proves by fitting an airy window at each end, and two along each flank, all of which open through almost 90 degrees.

Towing it

Better vision for towing is a major claim of the advocates of folding vans. We were unable to vouch for the Coral, however, as its travelling height of 50in left only a small slit of vision over the boot of our test Volvo 343 — not enough to rely on without good side mirrors. Fortunately, its overall width of 6ft 5in did mean that we could tow with good vision via the Volvo's standard side mirror.

The real advantage of a folder is its slick aerodynamics. The 343 is a willing performer when driven briskly solo, but any towed bulk cuts its performance drastically. At 1331lb unladen, the Coral isn't exactly a lightweight, but its low profile made for drama-free Volvo towing, with no sway, no wag and very little noticeable suspension movement to jar the 343's rear end. In February's gusty weather a rigid van would have undoubtedly made its presence felt . . .

On tow, the Coral knocked the

Volvo's overall consumption down to 26.4mpg, compared to its unfettered average of 30½mpg — a more-than-acceptable deficit.

The Coral's brakes were sharp and positive in action, and the over-run so sensitive that there was no chance of reversing without first engaging the imprecise manual catch.

Verdict

André Jamet has built a folding caravan that doesn't have to apologise for itself. At around £2500 it isn't cheap, but it is a genuine four-berth with fixtures and fittings at least as good as many a rigid rival's. Yes, you can buy the cheapest CI Cadet for a good £1000 or so less, but equally you can pay as much again for a four-berth 12ft 6in van.

The Coral's cost penalty is probably £150-200 compared to a similar rigid, but for that it will save your tow-car's fuel and provide safe towing for small family cars that would be too light for a comparable rigid van.

Your non-caravanning neighbours will love the Coral, too, for, out of season, it can be stored in your garage. And it's a pleasant irony that a trailer designed to be stored under cover is rust-protected more thoroughly than most rigid tourers that have to stand in the front garden all year.

All the facts . . .

Price £2549

berths one double 75in by 46in, two singles (bunks) 72in by 25in

Overall length 16ft

width 6ft 11in

body length 12ft

interior headroom 6ft 4½in max

height (folded) 3ft 4in (erected) 7ft 9in

Chassis fully galvanised and painted

hitch-height 13in

type Alko

brakes over-run drum brakes, manual reverse lock-out

tyres Continental TS 771 radial-ply 145SR13

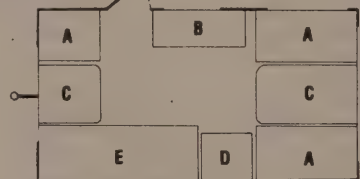
Max gross weight 1650lb (748kg)

unladen weight 1331lb (603.6kg)

Manufacturer André Jamet

distributor Brand Imports, Leopold St, Lamberhead Industrial Estate, Pemberton, nr. Wigan.

DAY



NIGHT



A seat **B** kitchen **C** table **D** wardrobe
E bench seat **F** double bed **G** bunks

Letters

Views to air? Tell DRIVE about your motoring and what it means to you. You can send letters for publication — unstamped — via DRIVE Directory, FREE-POST, AA, Basingstoke, Hampshire RG21 2EA.

Follow the van

Journeying on major roads in Wales, it seemed to me that caravans are becoming more of a menace — and, as someone who has occasionally towed a caravan, I feel that my criticism is unbiased.

The problem appears to be the selfish attitude of the drivers of some of these outfits. If only they looked in their mirrors, they would see a queue of motorists waiting to overtake. On winding country A-roads, they should pull to one side and let others go past.

In my experience, most caravanners are guilty of this practice, so perhaps it is time that there was a special section on towing in the Highway Code. G R Williams
Wreccsam, Clwyd

Off-side

I applaud the inclusion in the new Highway Code of a section on giving way to buses. However, I have noticed a growing trend among bus drivers which, in my opinion, is both frustrating and dangerous. Many switch on their offside indicator as soon as they stop — even if there's a queue of passengers waiting to get on.

I have often halted behind a bus with its flasher going, presuming that it is about to pull out, only to find that I have pulled up unnecessarily. I am now tempted to disregard these bus signals and overtake — except that it could lead to a potentially risky situation. Have other readers noticed this trend, or is it a habit unique to drivers employed by the S Yorkshire Passenger Transport Executive? N A Moore
Sheffield, S Yorkshire

Wise guy

I have just spent an enjoyable and nostalgic two hours reading DRIVE's AA 75th anniversary issue.

I began driving in 1919 when my brother, home from World War One, purchased our first car from a garage near Edinburgh. It was a secondhand 12hp Palladium five-seater — of French origin, with beautiful pigskin upholstery.

We joined the AA right away

and, in 1924, my father took out a life membership for me; I think it cost only 18 guineas! I am now 81, and still enjoy motoring.

Miss E D McLaren
Abergele, Clwyd

Small beginnings

I have started a British register of unusual micro-cars. After contacting various clubs, I already have 28 vehicles on file including such names as the AC Petite, Allard Clipper, Flipper, Goggomobil and Velorex.

If any readers have an unusual micro-car, perhaps they would be kind enough to get in touch with me. There is no fee involved.

Mrs Jean Hammond
28 Durham Road
Sidcup, Kent

Stopping the rot

I would like to correct Robert Clay's assumption (May-June issue) that the leading rust-proofing companies have not considered setting-up an association for the protection of the consumer and, indeed, themselves.

We have met to discuss this from time to time, but the problem is largely one of guarantees.

The other point at issue is rustproofing by car manufacturers. We do not think this can be carried out on the production line adequately or economically, particularly when related to the need for later servicing.

Interestingly, though the major rustproofers have vast experience of long-term corrosion prevention, the car manufacturers, whose interests have been predominantly short-term protection, seem loath to contact them. We confidently believe that we can show them the most economical way of stopping the rot, if they really do want to do that. G A Johanson, Joint Managing Director, Protectol Ltd
Barnard Castle, Co Durham

Late transfer

Am I the only motorist to miss the 'extensive' Protectol campaign advising motorists about transferring their Endrust guarantees? I found out about the arrangement in a DRIVE news item but, by the time I read it, the deadline had passed, and my late application was met with what I would describe as a 'brush-off'.

Could any motorist who has suffered an invalidated guarantee for similar reasons suggest a foolproof method of bringing such changes to the notice of existing guarantee holders? W M Allen
Stafford

● Protectol tells us that it had no liability to help in this matter, but did so out of concern for the

industry's image, advertising its intentions widely in the national and regional press and placing the deadline on its offer. The offer extended only to those Endrust stations that joined the Protectol organisation.

Enlightenment

After driving for five years in Australia, and recently in Florida, USA, I can only conclude that the traffic light system in this country is outmoded, inflexible, and at times positively dangerous.

The red/amber phase, for example, should be replaced by a direct red-to-green sequence. Too many motorists treat red/amber as green, increasing the collision risk with vehicles jumping the lights on amber. In towns it should also be a legal requirement for turning traffic to give way to pedestrians crossing the road on a 'walk' signal; on the other hand, jaywalking should be made an offence.

And let's standardise the right filter system so that the green arrow is always illuminated after the main green light.

A procedure that could well be copied from America is the option to turn left, if the way is

clear, even when the lights are red — a scheme that can reduce congestion. If pedestrians should be crossing on a 'walk' sign around the corner then, as in Australia, traffic can be temporarily halted by a left-pointing red arrow.

To improve traffic flow further, all local authorities should install computer-controlled, linked traffic lights. It would also be a good idea to adopt the Florida example of making traffic lights easier to see by suspending them high above the road, and giving them larger, brighter signals than Britain's.

Dr B W Marsden
Poynton, Cheshire

● **Comments** AA road safety expert Bob Hardy: 'The Highway Code does say that pedestrians have priority at a junction. I agree with Dr Marsden's view of jaywalking, but convictions would prove difficult to obtain. People don't carry pedestrians' walking licences with their names and addresses ... The House of Lords has considered changing traffic lights as Dr Marsden suggests, but decided to leave them alone. I am not in favour of laws

that would allow people to drive through a red light, and many major cities already have computer-controlled lights.'

Scrap food

Oxfam is running a stall at the auto-jumble event, Beaulieu, Hants, on 13-14 September, the proceeds going to Oxfam for health projects. Any contributions from readers in the way of cars, motorbikes, spare parts, will be gratefully received.

Sue Edwards

Oxfam Special Projects Unit
274 Banbury Rd
Oxford

Hard to stomach

Is it not time that some better service was offered to the traveller on the M4 than is available at Membury? The building itself has all the charm of a prison camp, and was obviously designed by an architect bent on depressing any motorist who dared to enter its doors — the dismal ramp leading to the restaurant, with its charming galvanised-iron-age ceiling and equally thrilling outlook on to an earth mound.

Granted, it would be difficult to alter, but there is no justifica-

tion for the filthy state of the surrounding grounds on the day I called.

Not only that, but the place was being 'decorated' at the time, and the temporary accommodation was miserable. To expect travellers to queue for a paper cup of tea and then have to stand around drinking it was unworthy of any firm claiming to be caterers.

L T Read

St Albans, Hertfordshire

Calling all cars

Volunteers with cars and a little time to spare can do a lot to help hospital patients with outings, shopping trips, home visits and many other jobs, all of which can make a world of difference to someone in hospital.

These volunteers usually form a selected panel of drivers who can be contacted when the occasion arises within the times that they have agreed to be 'on call'. Anyone who is interested in taking part in this growing activity should contact a local hospital.

R M McDermott

Voluntary Help Organiser
St Pancras Hospital
London NW1

Double trouble

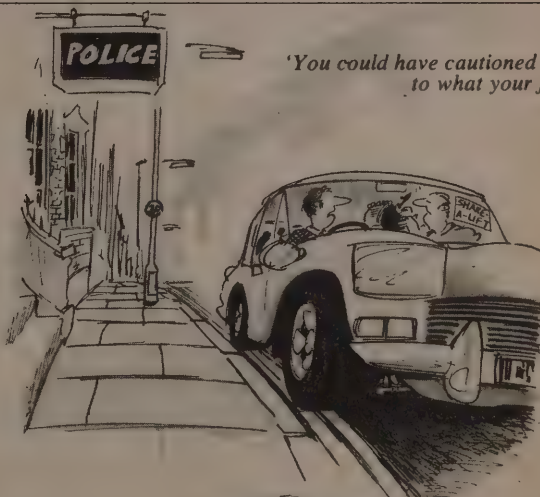
Cartoonist NOEL FORD has learnt that a trouble shared is still trouble . . .



'Blasted car always breaks down on my day'



'Yes, that's what I said — "incompatible"'



'You could have cautioned me as to what your job is'



'I may have kept you waiting, Simmons, but it'll be no excuse for arriving late at the office'

Any problems? Whether they are technical, insurance or legal, DRIVE's experts can help. Write to: Clinic, AA, Fanum House, Basingstoke, Hampshire RG21 2EA

Cut and wrapped

I read recently of a 'cut-edge' fanbelt. Can you tell me what the term means and how does this belt differ from the conventional sort? — **B ALLEN, ORPINGTON**
A conventional 'wrapped' fanbelt contains rayon or terylene cords that resist stretching. The V-section that drives the pulley is made of synthetic rubber, and the complete belt is wrapped with fabric to minimise abrasion.

The cut-edge fanbelt has no outer wrapping, which allows room for extra anti-stretch cords of polyester; the plastic V-section contains several plies of abrasion-resistant strengthening fabric. Cut-edge belts are said to have a longer life.

Soled out

About 10 years ago, I bought a pair of driving shoes. They had no heel, and the sole continued up the back of the shoe to provide a curved pivot for easy pedal operation. They were ideal for driving, but, eventually, after much restitching, they fell apart. Sadly, all attempts to buy replacements at local shoe and motorists' shops have drawn a blank. Does anybody make this kind of shoe any more? — **A S VELATE, HORSHAM**
Alas, no. We contacted several journals of the footwear industry, and none knew of a company now making driving shoes. A call to one of the country's leading shoe manufacturers, in Northampton, confirmed this; a spokesman said that, due to these shoes going out of fashion and the resultant fall in demand, it stopped making them six years ago. Nearest equivalents, perhaps, are the 'training shoes' sold in sports shops; these often have soles running at least part-way up the backs.

Hit the high spots

My 1977 Ford Cortina has developed a faint brake squeal and a steering wobble and rattle as I brake lightly. I've replaced the steering-column coupling, but this has eliminated only the rattle. I have been told that the discs are worn and need replacing (already!). Can this be right? — **J M BLOOM, ASHFORD**
Cortinas — and Ford Escorts, too — occasionally suffer from braking tremor such as yours, caused by high spots or light rusting on the discs. Don International makes special brake pads, each containing two abrasive

strips to smooth away high spots, eliminate rust and remove particles of friction material that may have contaminated the disc.

Your Ford dealer can also supply a special set of pads coated with a light abrasive — a bit like jewellers' rouge — to do a similar job. Part number for the Ford pads is 1576824. Try a set of these and, within a couple of hundred miles (brake gently for the first 60 miles), your problem will probably be over.

Strip off

How can I remove the advertising strip which the dealer stuck to the rear window of my Alfadud? I am unwilling to continue indefinitely with this free publicity, but it won't peel off, and cellulose thinners, applied sparingly, has no effect, even when a scraper is used. I am sure other motorists object to this advertising. — **G E FOLEY, HAYWARDS HEATH**
You are obviously not referring to easy-peel strips of staticised pvc film — the sort used to hold tax discs in place. The one on your Alfadud may have been dry-fixed — like a film of ink applied to the glass — which is 'near impossible to remove,' a transfer manufacturer told us. 'All you can do is scratch or scrape it very carefully with a razor blade, a little at a time. Very strong solvents that might lift it off are not generally available to the public; in any case, they could ruin the parcels shelf or the window-surround rubber.'

The strip could, however, be made of self-adhesive vinyl, or polyester coated with adhesive. In these cases, soak a cloth in very hot water, wring it out and apply it to the strip; then, starting at the edges, gradually peel off the film a little at a time.

What on earth

Some time ago, the radio on my Vauxhall Cavalier coupé began crackling, as if suffering intermittent electrical shorts. Whenever this happened, the fuel- and temperature-gauge needles registered maximum, returning to

normal when the noise stopped. My garage fitted a new (apparently) amended-type voltage stabiliser, and all was then well . . . for about a week. Now, it's happening again. Any ideas? — **J FREEMAN, MAYFIELD**

It's just possible that the new instrument stabiliser is faulty, but much more likely that your radio is suffering from an intermittent earth connection — a loose wire in a multi-pin plug-and-socket or at the connection to the car body under the fascia — or a fault on the printed-circuit board on which the stabiliser is mounted behind the instrument panel. Check for obvious loose connections yourself, or call on the services of a qualified auto-electrician.

Through thick and thin

There has been a lot of discussion, recently, in the motoring press as to the relative merits of 'thin' and 'thick' multigrade engine oils. What does DRIVE say? Would it be wise for me to 'convert' my Renault 18 from 20W/50 oil to 10W/30, and would it improve my fuel economy? — **P HARRIS, OXFORD**
The oil you should use in Britain's climate is 20W/50, and some improvement in mpg may be achieved by changing to a 10W/30 oil. But Renault says that, in its experience, use of a thinner lubricant has led to an increase in oil consumption, and it has doubts about the long-term effects of 10W oil on engines designed for 20W. It doesn't recommend use of a 10W/30 oil unless the temperature makes it absolutely necessary. It adds that, if you go ahead — perhaps to obtain easier starting in cold weather — the oil may be retained so long as the weather doesn't get warmer than 65°F. Which means that you would have to revert to the old-fashioned idea of an oil change every summer and winter . . .

Soluble problem

I often hear a sort of warbling squeal from the water pump of my 1973 Fiat 128. I've been told that adding brake fluid to the water

will cure it, but this sounds rather risky. Would soluble oil (I'm a turner by trade) be better, or should I have a new pump fitted? I am worried as to the long-term effects that these concoctions might have on the antifreeze. — **P M ANDREWS, FIFE**
We have heard that brake fluid will quieten a noisy water pump, and soluble oil would probably work just as well. But we don't know what the effect would be on the antifreeze solution or — more important — the cooling system. Why not simply buy a can of water-pump anti-squeal lubricant? Yes, there is such a thing, and it's available from all good car-accessory shops. It will cost you more than your lathe oil, of course, but its harmless formula is well-tried and trusted — and it'll still be a lot cheaper than a replacement pump.

On the up and up

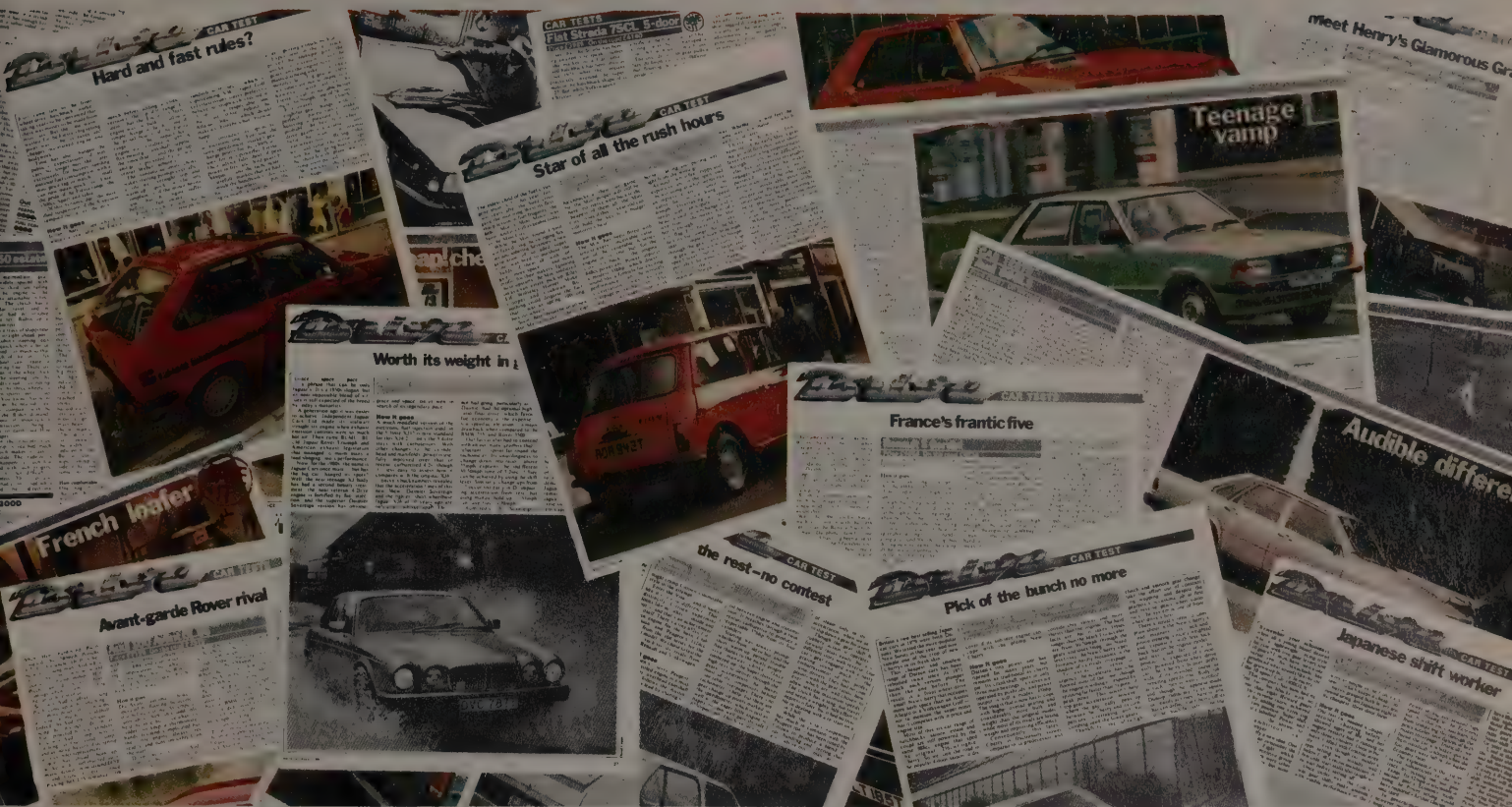
I am a 24 year old student. Following a car accident a year ago, my insurance company wanted to double my premium to £340 per year . . . so I sold the car. Now, I am planning to buy a Volkswagen Golf GLS; but, before I do, would you please answer the following queries:

- 1 After a lapse of one year, and my attaining 25 years of age, will my previous accident record be erased and the insurance premium returned to normal?
- 2 If not, how long does it take to erase such an accident record?
- 3 Will it be possible to repay the damage cost, to improve my insurance position?
- 4 If I have to pay £340, assuming no accidents in the following year, will I be entitled to any no-claims discount?
- 5 If so, will this discount be based on £340 and reduced thereon, or based on my original £170 premium and reduced thereon? — **D ASHWELL, LONDON**
Phew . . . well, we'll do our best:
1 Sorry, can't give a precise answer to this one; different insurers take different attitudes towards new policyholders with accident/conviction records.
2 Special terms imposed because of an accident record usually continue for at least two years; thereafter, they may either be reduced or discontinued. But, again, practice varies between insurers.
3 Some insurers allow drivers to pay back the cost of a claim to preserve their no-claims discounts. However, now that your policy has been cancelled, your insurer is unlikely to agree.
4 & 5 Whatever your premium, a claim-free year will earn you a no-claims discount, and this will be based neither on your £170, nor on your £340, but on whatever premium your insurer required from first renewal — which, since premiums rise annually, will inevitably be different again.



'This psychic servicing is the very latest thing, sir. They can do whatever needs to be done without having to lift the bonnet.'

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It's happened 25 times in the last year. A brand-new car rolls up to Barry Fox's workshop . . . and he starts taking it apart.

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Signature

Date

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D65

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AA

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Nov-Dec 1980
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Polonez 1500
Daihatsu Charade XTE
Renault 14TS



SEE THE SHOW FREE! page 5

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November-December 1980 Number 66

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True Brits

BUY FOREIGN cars and you bang another nail into the British motor industry's coffin — that's the message being hammered out by BL Cars. But buy an Austin Allegro or Mini and, technically, you could be buying . . . Belgian.

Increasingly, car manufacturers have to regard the whole of Western Europe as their factory, which poses a problem for chauvinistic British car buyers. DRIVE asked spokesmen for BL Cars, Ford, Vauxhall and Talbot to sort out their cars' birthplaces.

Arnold Bolton, business affairs manager of BL Cars, told us: 'Yes, we have imported Allegros, but only when we could not meet demands at home. We brought in a reasonable number last year — about 10% of all Allegro sales — and we imported Minis, too.'

'But the big difference between our imports and everybody else's is that these Allegros and Minis were 75% British-made. We supplied car kits to the Seneffe factory in Belgium, which produces these cars for Europe. The foreign parts of these cars are glass, tyres and paint only, so I think that buyers should regard all these models as British.'

'Compare our "imports" with the Ford Fiesta, which is sold as a Ford UK product but is produced in Spain. The Spanish keep their market closed to us, so it is a one-way traffic in sales. It must harm British industry.'

And so to Tom Malcolm, chief press officer of Ford: 'Last year we imported large numbers of Fiestas and Cortinas, and all our Capris and Granadas come from Germany. The Fiesta and Cortina are also made at Dagenham, and the Escort comes from Halewood.'

'Last year was abnormal because of our long UK strike. We had a lot of cars in pounds and docks, at home and abroad, so, in order to meet the demand at the end of the strike we sold a high



WHILE VOLKSWAGEN BOASTED of a reliable Golf clocking 100,000 miles, a Liverpool engineer reached the same figure — in his 1936 Talbot Corsica.

Douglas Lambert covered his 100,000 miles in the six years since he bought the car, and the last 3500 miles earned £2000 in a sponsored round trip to Alta Fjord, beyond the Arctic Circle. The £2000, by

the way, is going to the Gunnar Nilsson Cancer Fund.

His only mechanical trouble was a bout of carburettor blockages caused by scale in the petrol tank being dislodged by the rough roads. The trip took just 15 days, and the classic Talbot averaged 24mpg, while the Talbot Horizon which went along as the service vehicle averaged 42mpg.

percentage of imported models.

'What else could we do? Do we keep the customer buying Ford by importing, or let him buy a rival make — which, in our experience, would probably be foreign?'

'Mind you, many parts on foreign-finished Fords come from the UK: 3litre Capri engines, for example, are made in Dagenham and shipped to Germany. The Fiesta 1300 may be assembled in Spain but, again, the engine is Dagenham's.'

'This year, Dagenham alone should be able to meet the home demand for Cortinas, and we hope to increase Fiesta production there to meet half the demand. Yes, the Capri and Granada will still come from Germany, but we are not trying to pull the wool over anybody's eyes. By law, every car sold in the UK must display its country of origin on a sticker.'

Bill Farbon, chief press officer of Vauxhall, told DRIVE: 'Models

with even 50% local content are not counted as "home" cars, but in many cases our cars are assembled here and provide lots of work. Since we started assembling Cavaliers — which have 40% "local" content — we have built-up our Luton labour force considerably. Only the Royale from Germany and the Cavalier Sportshatch from Antwerp are imported intact.'

'Dealer networks need assistance to keep them going. So when we sell a Royale it's good for the whole company — the more profit we make, the more money there is to invest — and that helps Britain.'

Talbot's public relations director, Colin Cook, has a clear conscience: 'Every Talbot buyer helps Britain because he's contributing to the economy of a company based in Britain. The Solara and Alpine are made here and 60% of their parts are British. Yes, we regard ourselves very much as a British company — of all the cars we sell in the UK, only the Horizon is imported, and that takes 1% of the UK market. I'd say we are a British firm employing 20,000 British people. Through our suppliers we contribute to 100,000 jobs.'

'We spend £400 million a year with these suppliers so I think we are backing Britain.'

But what about Talbot's takeover by the French-owned PSA group? Says Cook: 'Since then the autonomy of the British company has grown. From managing director George Turnbull downwards the staff is British — you couldn't say that when the Americans owned us.'

One last thought crossed DRIVE's sceptical mind: surely, buying a Horizon helps the

I can still remember my first time . . . at the Motor Show, that is, I hitch-hiked 400 miles overnight (those were innocent days), spent two hours in Earls Court, and hitch-hiked 400 miles home, again overnight.

The star of the show was the Ferrari Superfast — but the sharp-suited young man on the stand simply turned his back when I asked to sit in it.

Those were the days, when cars were cars, and the M1 stopped at Newport Pagnall. My clearest memory, however, is how cold it gets at midnight on Scotch Corner in October.

Now, nearly 20 years on, the Motor Show has outgrown Earls Court — but not me. I'll be there, in Birmingham, to see DRIVE's cover cars and the 50-or-so others that we preview on pages 40-45. And I'll probably drive at least part of the way up the M1, whose coming-of-age we celebrate on page 28.

I doubt if I'll enjoy it any more than I did the 1964 show. But maybe this time I'll get to sit in a Ferrari . . .

— the Editor



'The body's made in Belgium, the engine's made in Japan, and the excuses are made in England'

French company to bigger profits? 'Our losses are paid for by France,' replied Mr Cook . . .

How the Big Four fared in 1979

Ford
485,559 sold
51% home-produced
BL Cars
336,984 sold
95% home-produced
Vauxhall
112,398 sold
84% home-produced
Talbot
119,431 sold
72% home-produced

Of the 965,909 imported cars sold in Britain last year, 21% was formed-in by the Big Four.

Idle talk

VOLVO CAUGHT DRIVE's engineer on the hop in our Long-Term-Test report of the Renault-engined 345. Our expert's technical bible quoted the car's idling speed as 725rpm, so we complained that the test car's 850rpm idling speed was too fast. In fact, a change of specification had raised the recommended idle speed to 1000rpm, so we should have said that our car was idling too slow. Idling speed for the automatic is now 825rpm.

Sitting pretty

IF YOU are a backache sufferer, the last thing you want in your new car is a driver's seat that doubles you up in agony in a half-hour's drive. The trouble is that, short of test-driving every model available, there's no sure way of telling whether you'll ever find what you're looking for. Until now, that is.

A new book, *The Slipped Disc*

WHILE MOST of Europe's car makers are in the doldrums, VW/Audi is putting on a brave front. Its already launched the imposing 200 Turbo Saloon and exotic four-wheel-drive Quattro this year, and now it's adding this sporty 2litre coupé to the line-up. Convinced that somebody, somewhere, has got the money, the Audi Coupé's styling is Quattro-based, but is aimed at Ford Capri, Alfasud Sprint and BMW buyers.

As you settle in the car, you



(Gower Publishing Co, Farnborough, Hants, £9.50), contains a section in which London physiotherapist Patricia Cyriax, a member of the Society of Orthopaedic Medicine, gives a professional assessment of current car seats after studies in Britain and America.

Her top 10 for driver health are: Lancia Beta HPE, Porsche 928, Range Rover, Rolls-Royce, Toyota Celica, VW Scirocco, the Colt Sigma and Sapporo, and the Volvo 244 and 264.

Scusi, scusi . . .

'LUIGI, we've been 'ad — all the steering wheels are on the wrong side . . .' So says Fiat's recent TV advertising. From what we hear, that's not all that's wrong with Fiat's steering.

The company is recalling 22,000 Mirafiori models for checks of their steering columns, as there is a fault that could allow 'unacceptable' steering 'play'.

Fiat is also cutting its warranty from 24 months to 12 months. Says press officer Simon Pearson: 'Our second year's warranty on items such as engine, gearbox and rear axle led to customer-dealer friction.'

Sky-high service

£825 FOR A SERVICE? You might resent paying that for a 6000-mile check-up, but DRIVE has found some owners who insist on it.

The cars are Rolls-Royces (what else?), and the owners include Sheikh Mohammed Al-Heid and Prince Naini, of Saudi Arabia.

They regularly fly their desert chariots more than 2500 miles to

expect to see a good array of instruments and feel its snug driving position, but the surprise is that there is so much room in the back as well: two adults can fit in comfortably, and the boot will swallow a respectable amount of luggage, too.

Its front-wheel-drive 5-cylinder engine might be down in size on the Audi 100's, to 2144cc, but it still produces the same power. There's a trace of odd-pot lumpiness and lethargy in the Coupé's low speed



IN-CAR COMPUTERS will soon rival in-car entertainment as the accessory that's essential.

Zemco GmbH, British-based subsidiary of the Swiss company which currently markets Computecruise — the first combined trip computer and cruise control — is now launching the ZT driving

H R Owen, a Heron-group garage on Greenford's Western Avenue, where a service averages £125 plus parts and oil; the air fare adds about £600-£700 to the bill. It's a wise choice of garage: H R Owen recently won the National Rolls-Royce Service Award, a solid-silver Flying Lady, for the second time, and prepared a Rolls for our HM's Middle-East tour.

Sky-high bills may result, but it does pay to go far for a job well done — especially if you have another car to drive meanwhile. One Owen customer has 19 Rolls-Royces, so he's not worrying about alternative transport.

Cherry blossoms

DATSUN'S HABIT of giving its Cherry car range bigger bodies while leaving the 1litre engines untouched used to make DRIVE's testers despair. Didn't Datsun know about optimum power-to-weight ratios?

At last, someone in Japan has taken notice of our criticisms:

pull-away from rest, and an exhaust boom that lurks in the background around 70mph, but this engine compensates by pulling strongly through all five gears. Top speed is claimed to be 115mph, with 0-60mph in just more than 10sec.

The car we sampled has power-assisted steering, and very good it is, too, increasing its help in low-speed manoeuvres, and fading out its assistance as engine speed rises. While it's very grippy on fast corners, the dead-beam axle that Audi/VW uses on all its front-drive cars can cause some tail twitching on bumpy bends. The ride is just right for a swift machine — firm, but not harsh or too intrusive.

One advantage of buying a sporty coupé from a range as large as VW/Audi's is that its components are already well-tried in other models, and you enjoy the same high quality of build that's so often lacking in more-prestigious cars. The Coupé also gets the same six-year anti-rust guarantee as the modest Polo. It's the ideal way to buy fun with reliability — though you'll have to wait until next Spring to part with your £8000.

computer — that's it on the left

Retailing at around £90, the computer can be fitted either at Computecruise centres for an extra charge, or by the DIY man with two hours to spare. Once calibrated, it can display figures for 14 different functions — in either imperial or metric measures. Functions include: current mpg and mph; average mpg and mph for the trip; gallons used since filling-up and gallons left in the tank; miles covered since fill-up . . . and time of the day.

Zemco has also introduced a DIY cruise control which, at £75, is one of the cheapest available.

two new models boasting 1200cc engines have been added to the new Datsun Cherry range and, as we forecast, they are the most economical of the bunch.

The larger engine produces 52bhp at 5600rpm, and its extra power at lower revs gives fuel economy a boost.

A new Datsun Sunny Hatchback Coupé with a five-speed gearbox has also been added to the line-up. The coupé, available only with a 1.4litre engine, should appeal to both sporting and economy-minded motorists.

Spark of life

THE FIRST 'sealed-for-life' car battery was launched by Britain's Chloride Automotive Batteries (makers of Exide and Dagenite) on 1 October.

To the motorist, this means goodbye to topping-up and the cleaning of messy terminals. It also means greater safety, for sealed batteries cannot spill or spray acid if accidentally knocked over. And Chloride's battery is immune to external sparks and flames, thanks to a new venting system.

To the car designer, we suspect that this development will mean the freedom to locate the battery with little or no consideration to its accessibility. To the dealer, it means easier handling and an extended shelf life.

Chloride is backing its battery with a four-year guarantee: your money back in the first two years, and a replacement battery supplied at half the normal price in the second two years.

Buyers will, of course, have no further use for their hydrometers, so they may be interested to know that chip technology already has the answer to battery checks — a new, digital voltmeter will be available, too.

● Chloride's battery will be followed just 16 days later by the launch of a rival 'sealed-for-life' battery from Tungstone.

Be prepared

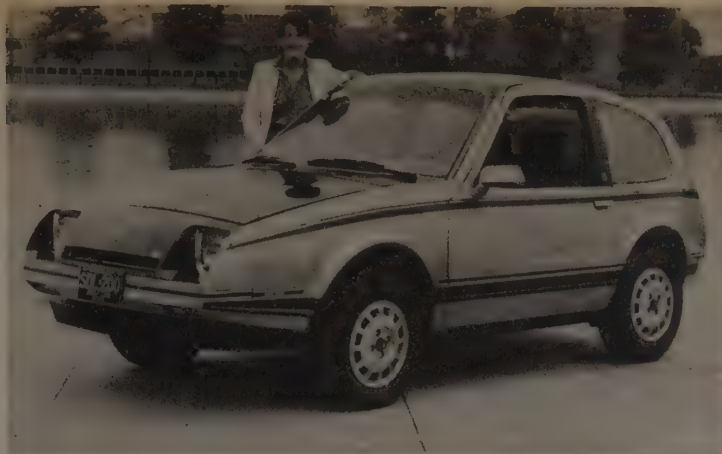
EVER SUFFERED the frustration of lacking the one tool you need to complete a late-evening car job? It does happen — even to trained

garage mechanics like Peter Dennett, when they are working on their own vehicles at home or on holiday.

'It's especially annoying as you can't even use the car to nip down to a friend and borrow the spanner you need,' says Peter.

With these problems in mind, Peter's car accessory firm, Tanucka, has pieced together a superb array of quality tools which, he claims, will meet virtually every need of the average motorist.

The best news of all is that he is offering it to **DRIVE** readers at an exclusive saving of almost £50. Turn to page 71...



GENERAL MOTORS has designed and built two versions of this experimental high-economy coupé. One is equipped with a three-cylinder 1.5litre engine and five-speed manual transmission. The other has a 1.9litre V4 engine and four-speed automatic transmission with overdrive.

The manual version returned 72mpg in the US Government's 'Highway' test — conducted at speeds of 40-55mph, but as yet there are no plans to put the cars into production.

Travelling companions

THREE NEW BOOKS that help to make motoring easier are pub- ▶

See you at the Show

1978's **MOTOR SHOW** was made all-the-more enjoyable by the complex traffic-management scheme that made getting there easy. In fact, the only major snarl-ups were inside the halls...

For 1980, the organisers are planning to make traffic flow even smoother: a computer, radar, wireless, helicopters and closed-circuit TV will help to bring 100,000 people daily to the International Motor Show, at the National Exhibition Centre, near Birmingham, with the minimum of aggravation.

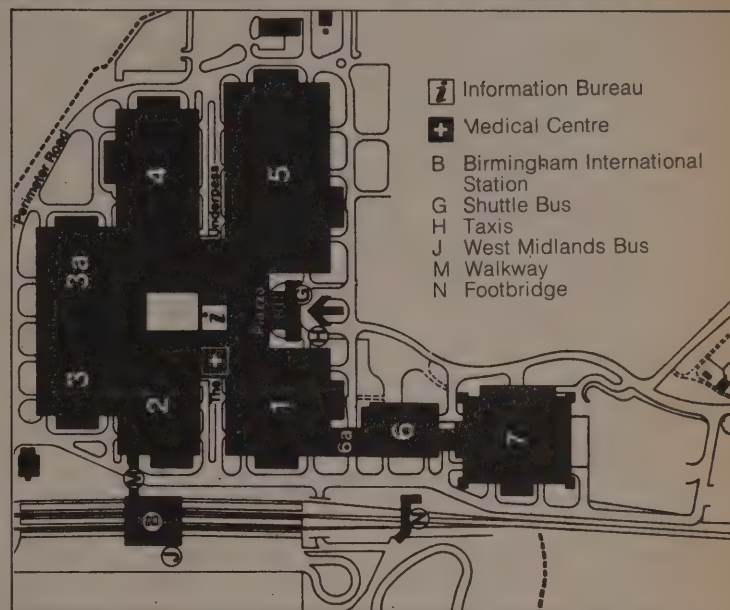
Starting 35 miles from the NEC, the comprehensive system of roadsigns includes variable ones which can be adjusted as and when traffic tail-backs dictate. Drivers will be directed to car-parks, where double-decker buses will take them straight to the exhibition — with one exception this service is inclusive of the £2 carparking fee. The exception will be the length of public highway made available by Solihull council, where parking will be free and a charge made for the bus service.

The two bus stations at the

NEC are near to each other, on either side of the railway track, adjacent to the new Hall Seven and the railway bridge. At both bus stations and at other entrances to the exhibition there will be ticket sales booths, ensuring that, even in the most-crowded circumstances, visitors should not have to wait more than 10min. Computer studies have predicted that the organisers should cope with far more than 120,000 people a day — last year's record for one day was more than 122,000.

British Rail has again planned for an invasion of passengers. Between 18 and 26 October, in the early part of the weekday, trains will leave London (Euston) every 12½min between 7.40am and 11.10am; on each of the two Sundays, 19 and 26 October, there will be eight further services. The journey time is 80min.

Additional special trains will run to the NEC's own station, Birmingham International, from Manchester Piccadilly, Liverpool Lime Street, Carlisle, Blackpool North, Preston, Holyhead, Crewe, Reading, Oxford, High Wycombe, Banbury, Leeds, York, Sheffield, Bristol,



Exeter, Taunton, Swansea, Cardiff and Norwich. W Midlands' train services will be increased, and there will be special services direct to Birmingham International from Wolverhampton, Coventry and Walsall.

All main-line stations offer a

combined travel and admission ticket. For example, a first-class return with admission to the Show costs £24 (£16.50 second-class) from Euston.

● But for the best Show ticket deal of them all, read on... and come to see us in Birmingham.



Just the ticket!

SEE THE SHOW FREE!

SEE THE MOTOR SHOW FOR FREE — by doing what comes naturally. What could be more natural than buying the best motoring magazine in the business — after all, you've just done it. Now you're halfway towards getting a full refund of your Show Ticket. And the rest is as easy. Just fill in the coupon below and deliver it in person to the AA stand, number 243 in Hall 1. When the doors close for the last time, we'll pull 100 coupons from our lucky-dip barrel, and those readers will get their reward through the post in the shape of our cheque for £2. It's an offer you can't really lose on — after all, you've still got 75 more pages of **DRIVE** to enjoy.

YES, please, can I have my money back?

Name
(BLOCK CAPITALS, PLEASE)

Address

Signed Date

Just fill in, tear out and drop into the special **DRIVE** postbox at the AA Stand No 243, Hall 1, NEC.

lished by the AA this month. The *Motorists' Atlas of Western Europe* backs up its map sections with touring information as well as the usual atlas details. It includes town plans of capital cities, international road signs, inter-town distances and the heights and closure dates of mountain passes. The atlas is available to members and non-members for only £3.95 from AA outlets and major booksellers.

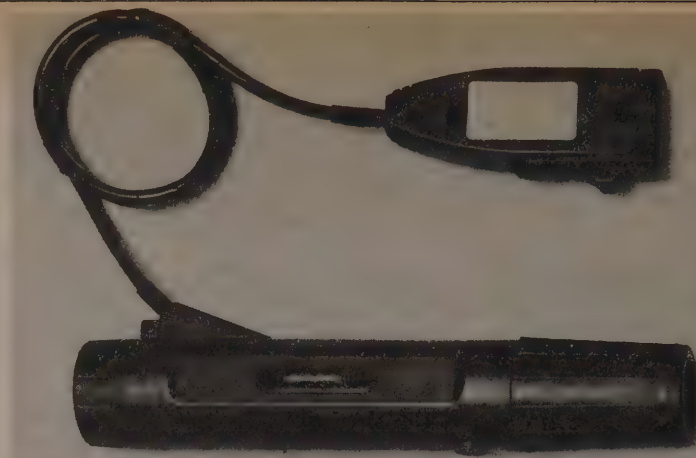
The Association's technical experts have pooled no less than 130 years' combined experience to produce *Know About Your Car* (£8.95), which explains how your car works — and what to do when it doesn't.

The 1980 edition of the *AA Guide for the Disabled* lists more than 400 AA-inspected hotels, guesthouses and inns in almost 300 locations. Listed county-by-county, they all provide overnight accommodation suitable for those confined to wheelchairs, and facilities for meals. This guide is available free to AA members, £1 to non-members.

Tread warily

THE NATIONAL Tyre Distributors' Association appeared to display a certain ignorance of the law in a recent survey to discover the state of the nation's tyres.

During the week-long survey of members' depots, 109,090 tyres were taken off wheels and, of these, 51,766 — 47.45% — were illegal (having a tread depth of less than 1mm over three-quarters of the width of the tyre). Those that the Association considered to be 'legal but lethal' (tyres with 25% of the tread bald) amounted to almost 30% of the



XENON TIMING LIGHTS are the brightest form of ignition-timing lamp, but need wiring up to power the extra light.

Speedograph, however, has launched a new xenon lamp which needs no outside power source — either 12v battery or mains. All it uses are two lightweight 1.5v batteries

housed inside the body of the unit.

Free from this restriction, the Speedograph merely requires one lead with an inductive pick-up clip to be attached to the sparkplug's lead. Like all xenon lamps, this latest version is expensive, at £26; but in DRIVE's view, neon timing lamps are too weak to be useful.

total number of tyres examined.

But, says AA legal expert Peter Wheelwright, there is no such thing as a 'legal but lethal' tyre. If a tyre's tread was good but its shoulder dangerously worn, it would undoubtedly fall foul of Construction and Use Regulations, which say that it is an offence to drive a 'dangerous vehicle' — whatever its faults.

Last year, 770,850 cars failed the official Ministry of Transport test because of faulty tyres and, in 1978, 87,000 successful prosecutions resulted.

Seal of Approval

The AA's Seal of Approval has been awarded to the Paddy Hop-

kirk 1kg dry powder fire extinguisher, and to the Nu-Swift 1kg Halon fire extinguisher. Approval has been withdrawn from Tex Stainless-steel windscreen wipers, Mixra Clean Screen, Frina sponges, Myerdale chamois leather and Chamix synthetic cloths. Approval has lapsed on Parnass brake fluid.

Victorious

HOW HAS the Australian state of Victoria succeeded in making seatbelt wearing compulsory, banned children less than eight years old from the front seats of cars, made it illegal for under-sevens to be carried without a restraint, and brought in random

roadside breath tests for drivers?

In contrast, Britain has discarded the idea of random breath tests and, after years of argument and counter-argument, we can still drive without seatbelts. And our legislators have not even begun to think about children in cars...

Victoria's answer is PSA — positive social action. In simple terms, that's convincing the public of the benefits to such a degree that it forces the government to fall into step with popular opinion.

One of the architects of PSA is 43-year-old Don Gibb who, after working for nine years for the Melbourne-based Road Safety and Traffic Authority, set up a special consultancy in 1969. On a recent visit to London, Gibb told DRIVE: 'It was obvious to me that good, sound marketing was the only way to achieve results in the quickest possible time.'

His first project — seatbelts — was, as it still is in Britain, a sensitive subject. 'I decided to create a greater awareness of road safety and change people's attitudes,' he says. 'So, to get the message across, I enlisted the help not of a disc jockey but top surgeons, who spelled out the realities in the press, on radio and on TV. The saturation campaign lasted five months — and it worked. The government tested community feeling and, on 22 November 1970, seatbelt wearing at last became law in our State.'

Communications breakdown

THE Department of Transport seems to be suffering from a communications problem.

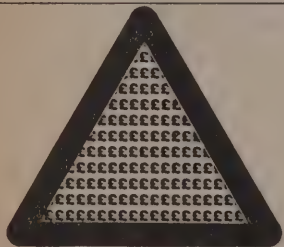
Eighteen months ago, the man-

statute book for six years, it has still been only partly implemented.

Among the provisions of the Act waiting for the necessary regulations to be made are some which give consumers a right to complete a hire-purchase agreement ahead of time. The details of how the rebate will be calculated have yet to be worked out, but future consumers in Brian's situation will be able to ask the finance company for a statement containing the settlement figure. They will then be able to do the appropriate sums on the viability of paying-off the agreement.

If the progress in implementing the Act up to now is anything to go by, the economic rain clouds may well have lifted by the time this provision comes into force; it will certainly come too late to help Brian Harper out of his predicament. Whatever the economic climate of the time, however, this part of the act will produce some rays of sunshine for hard-pressed consumers of the 1980s.

ANTHEA WORSFALL



CONSUMER AFFAIRS

Pay-off lines

BRIAN HARPER had a difficult decision to make. Made redundant three months previously from his job as an assistant personnel manager, he had been struggling to maintain his family's living standard — which included a nice new Ford Capri bought on hire-purchase.

Keeping up the payments was becoming more and more of a battle, and losing the car would be a blow to his job hunting. It was a hard decision, but eventually he

realised that the car had to go.

Brian composed a suitable letter to the finance company, explaining his predicament and his need to terminate the agreement. A few days later he was stunned to get their reply. Yes, he could terminate, but he would have to pay £1000 to do so.

His local Citizens' Advice Bureau told him that the demand for £1000 was perfectly legal. Under the Hire Purchase Act of 1965, a hirer can terminate his agreement any time before the last payment becomes due. However, when he does so, he must pay to the finance company the sum required to make the total amount of money paid under the agreement up to one half of the hire-purchase price — or, alternatively, any lesser sum specified in the agreement.

In Brian's case, the hire-purchase price was £4000, he had paid off £1000, so in order to bring his payments up to £2000 the finance company was entitled to ask for another £1000. Had a higher figure been asked for,

Brian would have been entitled to dispute it.

Brian was horrified and racked his brains to think of another way out of the problem. It was his wife who found the solution: better to scrape up the amount needed to pay off the agreement altogether. They would presumably get some sort of rebate for settling the debt early, and that way they would have the car and be able to sell it and get some of the money back.

Sadly, when Brian checked the 'small print', he found that there was no provision for paying off the loan early. As the CAB adviser explained, he was not entitled to insist on settling early, and the Hire Purchase Act does not contain any help for consumers in this situation.

For Brian it was a matter of unfortunate timing. The economic recession which has caused him to lose his job had arrived before the full enactment of the 1974 Consumer Credit Act. Although this Act gives greater protection to consumers who use credit, and despite its being on the



OUR EXPERTS tell us that the simple beam-type torque wrench is a surprisingly accurate instrument — possibly more so than an impressive-looking ratchet torque wrench costing four times as much. Sadly, DIY enthusiasts often go for broke, buying the latter type, lured partly by their audible/visual signal, which indicates when the required torque has been reached.

Now, a British invention combines the simplicity of the beam with most of the advantages of the expensive type. This preset torque wrench is made by the Bayonet Tool Company, of High Wycombe, and is available from motor acces-

sory shops, price £9.75. But how can cheaper be better? The simplicity of the beam wrench — the beam bends under load to give a torque reading against a scale — is its advantage: no moving parts to wear, and — more important — the beam is relaxed when not in use. The pre-set type, however, usually has many moving parts, and users tend to leave the tool set for a high torque reading, so stressing the main compression spring.

Despite the facts, conventional beam wrenches are unpopular because their scales are not easy to read, but Bayonet's invention overcomes this objection. All the new tool lacks is a ratchet...

Correction

IN our Winter Breaks' supplement (DRIVE, September-October), it was mistakenly stated that the Grand Metropolitan group was giving away gold-plated watches to customers staying four full weekends in its hotels. In fact, the offer is being made by Anchor Hotels.

Roads information

GT BRITAIN

Numbers in parentheses refer to maps in the 1980-81 *AA Member's Handbook*.

Motorways open

M58 Skelmersdale-M57, 6.5 miles (32); M90 Glenfarg-Junction 9, 4.5 miles (49).

Major roads open

Aviemore bypass A9, 3 miles (56); Brecon southern bypass A40, 2.5 miles (15); Sandwich northern bypass A256, 1.5 miles (11).

EUROPE

Belgium — Toll-free Autoroute A4 (E40) near Namur, extended 8km from Courrière to Spontin.

France Toll-free Autoroute A35, Basle-Mulhouse, extended by 5km north from Rixheim to junction with A36, east of Mulhouse. Autoroute A36, Beaune-Besançon; 68km of full motorway now open between Autoroute A37 (north of Beaune) and Gendrey (near Besançon).

Switzerland Toll-free motorway N2, near Andermatt, extended by 3.5km, Wassen to Göschenen.

Yugoslavia Toll motorway 1 (E94), Zagreb-Belgrade now open between Ivanja Reka (16km east of Zagreb) and Lipovljani; tolls D50 for cars, D95 car and caravans.

Tenvox. Before there was only car stereo.

Here's the final word in car audio systems. Tenvox. A stunning new range of equipment that makes 'car stereo' a thing of the past. For example, the

Dashboard Wizard (illustrated) is without doubt the most sophisticated piece of car audio equipment

available, with more features than any combination unit before it. Features like

a 14-station memory tuner, digital auto-search / auto-scan,

5-band graphic auto-reverse

equalizer, cassette deck with Dolby* and Chrome/Normal tape switch, plus an integral quartz clock!



The Dashboard Wizard is just one model from a vast range of highly advanced car audio units that includes tuners, cassette decks, combination units, car compo systems, a revolutionary marine compo system, power amplifiers (up to 160W output!) and speakers.

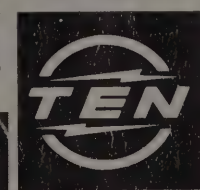
**Before there was only car stereo.
Now there's Tenvox.**

Send for free brochure and name of your nearest stockist.

TENVOX

*Dolby is the trademark of Dolby Laboratories, Inc.

Voxson Audio Limited, Nuffield Way
Ashville Trading Estate, Abingdon
Oxfordshire OX14 1RY
Telephone: Abingdon (0235) 26340
Telex: 837707 Voxson G



Tenvox. It makes car stereo obsolete.

ufacturer of a new game based on motorway driving, asked the men from the Ministry for guidance on an M-way overhead signal. His question: do flashing red lights over an M-way lane, simply order drivers to stop, or move to another lane? The DoT's advice: use the second meaning.

But the Highway Code states: 'If the red lights above your lane flash, you must not go beyond the signal in that lane'. There's no suggestion that you should change lanes.

So why does the Ministry talk of lane changes? Its justification is that some advance warnings, accompanied by flashing amber signals, can direct motorists to change lanes... well before the red lights are reached.

The danger, as Don Hughes — inventor of the *Motorway* game — points out, is this: 'Supposing a motorist joins the M-way between the last of the advance signs and the flashing red lights? There is nothing to tell him that he should change lanes — only a clear instruction to stop. And there are few things more frightening than stopping on M-ways.

This was the point that Hughes made in a recent letter to Transport Minister Norman Fowler, adding that many road experts he had consulted felt that the Highway Code's explanation of the sign was 'daft'. But, somehow, the Minister succeeded in getting hold of the wrong end of the stick. Far from agreeing to rephrase the Highway Code's interpretation of the sign to match his Department's earlier advice, he merely stated that he had no intention of changing the red lights...

Simple is efficient.



The new Escort is a front wheel drive hatchback with a transverse engine and all independent suspension.

With the 1.1 litre engine it can do 49.6 mpg at 56 mph*. With the 1.6 litre its top speed is 103.8 mph†. It goes 12,000 miles between major services. And it's one of the cheapest cars to service in its class.

What makes this remarkable new car go so far, so fast, for so little?

The answer is efficient engineering.

The features that contribute the most to the Escort's efficiency are its engines and its advanced aerodynamics.

There's a specially developed 1.1 litre engine

with the variable venturi carburettor. And we've designed two brand new engines of 1.3 and 1.6 litres. They have features like breakerless ignition, aluminium cylinder heads, self-adjusting tappets and hemispherical combustion chambers.

Not only do these engines require the absolute minimum of servicing, but they also make the most of every drop of fuel.

In this they are helped by a lightweight body with an exceptionally slippery shape.

Its drag coefficient is a mere 0.385. Or, put simply, it's the most streamlined in the class.



*Gov. test figures 1.1 HC constant 56 mph (90 kmh) 49.6 mpg (5.7 litres/100 km) simulated urban cycle 34.9 mpg (8.1 litres/100 km) constant 75 mph (120 kmh) 36.2 mpg (7.8 litres/100 km). 1.3 HC constant 56 mph (90 kmh) 47.1 mpg (6.0 litres/100 km) simulated urban cycle 30.4 mpg (9.3 litres/100 km) constant 75 mph (120 kmh) 36.7 mpg (7.7 litres/100 km). 1.6 HC constant 56 mph (90 kmh) 44.1 mpg (6.4 litres/100 km) simulated urban cycle 30.7 mpg (9.2 litres/100 km) constant 75 mph (120 kmh) 34.4 mpg (8.2 litres/100 km). †Ford computed figures.



Comfort and equipment? The new Escort is smaller outside than its forerunner. But thanks to what the designers call 'package efficiency', it has more leg room, more headroom and more hip room. Not only that but it has much improved seats, (deeply contoured and coil sprung), and an amazing capacity for luggage. As much as 48.7 cu.ft. with the back seat folded.

You can see the new Escort at your Ford dealer now. It's simply the most efficient car we've ever built.

FORD ESCORT



Range of prices Escort 1.1 litre from £3374, Escort L from £3695, Escort GL from £4211, Escort Ghia from £4726. Maximum prices as at 26th Sept. 1980. Seat belts, car tax and VAT included. Delivery and number plates at extra cost. Car illustrated is an Escort Ghia, with optional metallic paint, headlamp wash, rear wash/wipe, central locking, power front windows, stereo radio and stereo cassette and power aerial.

Your car can be as efficient as the superb new Escort.



At least, in parts.

Ford engineers built the new Ford Escort with a precise objective. To create one of the most efficient cars in the world.

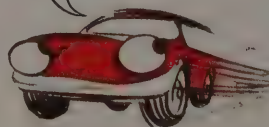
With this in mind, they chose to incorporate Motorcraft parts as 'original equipment'—that means fitted in production. In fact, they specified virtually every item in the Motorcraft range.

Because Motorcraft is the most efficient range of parts on the market. Motorcraft's quality parts fit more than 90% of cars, including imports.

So you could probably improve the efficiency of your car, too.

Just do what Ford's engineers did. Specify Motorcraft parts.

MOTORCRAFT
PARTS...
KEEP-FIT
FOR CARS!



To fit most cars,
including imports.



BACKED BY FORD

Not-so-ancient Marina

Morris Ital 1.3L

Price £3735 On the road

prisingly, the 1.7litre overhead-camshaft O-Series engine, introduced in the Marina just 18 months ago, continues virtually unchanged, but the alternative, the ageing 1275cc A-Series engine, has had a major reworking. Benefitting from the development of the Mini Metro's new engine, the 'A-Plus' is a strengthened design, with new pistons to raise the compression ratio, a new manifold and a larger carburettor — all helping to boost overall efficiency.

For a car of the Ital's bulk, 1275cc hardly seems the recipe for exciting performance, but our stopwatch proved that it is far from gutless. The 30-70mph times we recorded for acceleration

through the gears and in top gear are, respectively, a 6sec and 2sec improvement over its Marina forerunner. Along with a useful 5mph gain in top speed, our comparison chart (overleaf) shows that the Ital 1.3 gives a very respectable account of itself alongside its rivals. It can show most similarly large 1300cc saloons a clean pair of back wheels, and we had to look to the larger, intermediate-size family saloons, such as the Vauxhall Astra, to find any real improvement in pace.

It was not just the engine's speed that pleased. As we have come to expect from the faithful SU carburettor, starting is always excellent, whether hot or cold,

and the warm-up period is made troublefree thanks to the smooth-acting manual choke and thermostatic control of the engine's air intake. Apart from slightly ragged progress in the first pull-away of the day, the A-Plus engine impresses with its willingness and smoothness. Hill climbing occasionally demands dropping to a lower gear, but for most driving conditions the Ital doesn't have to be rowed along with its gearshift.

The gear change may lack the silky smoothness of most rear-wheel-drive rivals, but it has a well-defined gate, and only very quick gear changes catch the synchromesh lagging. Our test car's first gear had a tendency to baulk, and the weak-wristed had to wrestle their way into reverse via an awkward cross, lift and forward movement. The clutch has a

'It's a Marina,' said one curious neighbour, on seeing our test Ital. We had to admit that he had a point. Austin-Morris had sent its ageing saloon to the Italian styling studios of Ital Design with the covering note: 'Create a new image with the minimum of metalwork changes'.

A mere £5million doesn't buy much in the way of an Italian Renaissance, but the car's front and rear have been updated.

Back home, the engineers had a new 1.3litre engine to install in the cheaper models, for which great claims are made. More speed for less fuel, and cheaper running costs — the stuff of which ad men's dreams are made. But it is an owner's dream?

How it goes

Like its predecessor, the Ital offers two power units. Not sur-



light, easy action and is just capable of a 1-in-3 hill restart, albeit with a lot of slipping.

Undoubtedly, the biggest disappointment of the Ital is its retention of the Marina's suspension. It now reads — and feels — like a piece of motoring antiquity: Morris Minor 1000-type front torsion bars with lever-arm dampers, and 'cart' leaf springs at the rear. Even on smooth roads, the Ital tends to jiggle from side to side in a perpetual state of directional uncertainty — especially at high speeds. It's a pity, for the steering itself is positive, pleasantly light and informative about what's happening between tyres and road, but, ultimately, its fine control is upset by the suspension, with bumpy bends sending the crudely located rear wheels tramping out of line. Though the Ital does all the right things in panic situations, a 1940s suspension no longer has what it takes to stir the adrenalin of 1980's discerning drivers.

Initially, the re-shaped driving seat didn't please some testers, who anticipated a lack of lumbar support. Thankfully, our first impressions were misleading, for even 300 miles at the wheel didn't produce the anticipated aches and backpains.

A complaint that did persist was the lack of legroom: even average-sized drivers found it limited. In other respects, the driving position is well planned: the padded steering wheel is conveniently angled for a comfortable arm reach; both the handbrake and steeply raked gear lever are conveniently placed; the pedal pads are directly in line with the driver, and there's room for a Size 10 to stretch out past the clutch. Two multi-function column stalks govern the minor controls, which include two-speed wipers and electric wash, but the wiper arcs leave annoying blind spots in the driver's field of view. Less-important minor controls are grouped on the fascia within easy reach, all with warning lamps.

Instrumentation is somewhat basic on the bottom-of-the-range L model, but it is clearly marked and in full view. Powerful halogen headlamps are standard throughout the whole of the Ital range, as are reversing lamps.

How comfortable

Our Ital's rear doors had rather stiff and insistent check links which led some to believe that the doors were fully open when they were only at first stop. Even with the doors fully open, however, access to the back is hindered by high sills and limited footwell space. Once inside, the reward is good leg- and kneeroom, with the base of the front seats shaped to

allow feet to slide comfortably underneath. There is room for three, just, but the one in the middle has to straddle the prominent transmission tunnel. There's no centre armrest on L-trim Itals, and those on the doors could be better contoured; but, that said, the seat itself won our approval with its good shaping and overall comfort — rivalled only by the Peugeot 305 in this class. There's room for improvement in the upholstery, however: its wearing faces have cloth inserts with broad plastic surrounds, which made our warm-weather testing a sticky job.

Predictably, our bottom-of-the-range model had somewhat basic fixtures and fittings. There's good-quality carpet and pleasant colour keying of the trim, but one has to move up to the HL and HLS models to find an equipment specification that matches some of the Japanese rivals.

Bringing up the rear, the new boot's high sill makes the loading of heavy or large objects considerably more awkward than it was in the Marina. Oddments space is limited to a parcel shelf on passenger side only and a glovebox; again, one does better by moving up the Ital range of trims.

Heating is governed by two slide controls that can be illuminated and are simple and quick to work. The front footwells benefit from a well-diffused flow, but little warmth makes its way to rear passengers' feet. Demisting is prompt, but the fresh-air eyeball

vents struggle to keep the interior cool on a warm summer day.

One major improvement over the Ital's predecessor is its mechanical refinement — particularly the lower noise levels. Comprehensive soundproofing has dramatically reduced both engine and road noise at all speeds. Our 1.3L cruised at the UK speed limits in a very inoffensive and rattle-free manner. True, there is some wind noise as one approaches the motorway limit, but nevertheless it is very acceptable for this class of car. The engine raises its not-unpleasant voice at speed above 60mph, and only rear-seat passengers will suffer the worst of a mild exhaust boom around the 65mph mark.

The A-Plus engine seems more enthusiastic about high revs than its predecessor, and is very forgiving when asked to pull away from 25mph in top gear. Around town, lightweight controls make the Ital easy to manoeuvre, forward visibility is good and a generous door mirror helps with the rear view — which is fortunate, as the high sill of the rear window makes it impossible to see where the boot finishes.

As you would expect from our comments on the Ital's suspension, the comfort of its ride is disappointing. Even on smooth roads, the Ital seldom seems at rest, and the faster one travels the more agitated it feels. Surprisingly, major road faults did not upset the Ital as much as we expected, but, even so, we suffered the occasional rude jolt — softened somewhat when there was a load on board.

How strong

Austin-Morris's much-vaunted rust prevention had been applied a little over-zealously to our Ital. A rugged-looking bituminous compound had been coated over the entire underside — so thickly that it had bubbled, split or flaked off in some places under its own weight, leaving vulnerable areas protected by primer only. We weren't too happy about the wheelarches, either. Overall coverage was good, but the important outer lips were completely missed. There were also some nasty mudtraps under the front arches. The closed box sections are now wax injected, however, and an excellent job had been done on our sample.

Paintwork displayed a few areas of 'orange peel' texture, and it was obvious by the amount of overspray on to the body trim that a lot of post-production paint rectification had taken place. Rear mudflaps are standard on all Itals — a sensible provision, though we would like some on the front, too, to prevent the side



AUSTIN-MORRIS ITAL 1.3L

Parts/repairs (inc VAT)
clutch £52.75 (fitting 2.25hr)
exhaust £49.45 (1.0hr)
headlamp unit £38.92 (0.45hr)
front bumper £26.80 (0.85hr)
laminated windscreens £42.09 (1.1hr)

oil filter and points £6.72 (0.8hr)
major service 12,000 miles (3.15hr)

Insurance group 2

Warranty 1 year, unlimited mileage + A and Relay with optional 2nd year cover

Standing costs per year/12,000 miles

Loss of value £264

Capital interest £218

New-cost inflation £501

Total standing costs = £984 (8.20p per mile)

Running costs

Petrol (£1.38 per gal) £473

Insurance (av) £114.00

Road tax, AA sub £60 + £26

Servicing/replacements £138

Total running costs = £808 (6.73p per mile)

Total cost of ownership

£1792 (14.93p per mile)

HOW IT COMPARES

Austin-Morris Ital 1.3L

Talbot Avenger 1.3LS

Peugeot 305 GR

Vauxhall Cavalier 1300L

Volkswagen Jetta 1.3GL

HOW GOOD

At-a-glance

DRIVE's verdict on the Morris Ital 1.3L, taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●●●●○○

FUEL ECONOMY

●●●●●●●●○○

HANDLING/STEERING

●●●●○○○○○○

COMFORT/REFINEMENT

●●●●●○○○○○

INTERIOR/LUGGAGE SPACE

●●●●●●●○○○

PASSENGER AIDS

●●●○○○○○○○

DRIVER AIDS

●●●●●○○○○○

ACCIDENT/INJURY SAFEGUARDS

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RUST RESISTANCE

●●●●●○○○○○

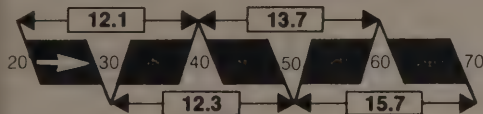
EASE/COST OF REPAIR

●●●●●●●●●●



ACCELERATION times in sec

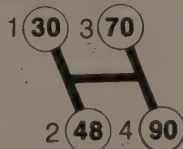
MPH	THROUGH GEARS	IN TOP GEAR
0-30	4.6	
30-40	2.6	6.1
30-50	5.9	12.3
30-60	10.6	19.8
30-70	17.1	28.0



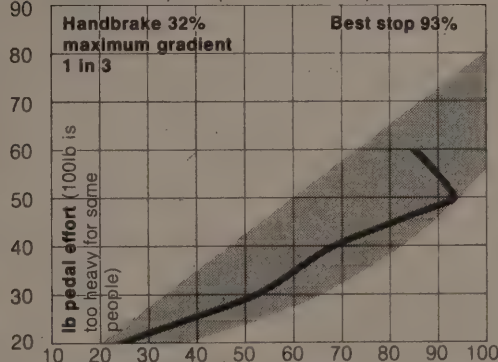
Top-gear speed-range times (sec)

TOP SPEED

max engine speed used 6000rpm;
max in top 5400rpm;
standing ¼ mile 20.1sec



BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)
47lb at start; **38lb** in constant use; **55lb** in severe use
Watersplash 80lb at first, 5 stops to recover

FUEL 4-star/97 octane min

Consumption — normal range	
short journeys in the suburbs	28½mpg
hard driving, heavy traffic	31½mpg
motorway — 70mph cruising	34mpg
brisk driving, mixed roads	36mpg
gentle driving — rural roads	40mpg
Typical mpg overall	35mpg
Realistic tank range	350 miles/10gal
Consumption at steady speeds	
30mph	60½mpg
56mph	44mpg
70mph	34mpg
max mph	21½mpg

SAFETY CHECKS O=factory option

steering: energy absorbing?	Yes	head restraints: front?	No
good road 'feel'?	Yes	rear?	No
brakes: powerful?	Yes	interior: well padded?	No
sensible effort?	Yes	w/screen laminated?	O
fade resistant?	Yes	doors: childproof?	Yes
belts: effective?	Yes	latches crashproof?	Yes
convenient?	Yes	petrol: shielded	
fitted in rear?	No	filler?	Yes
		protected tank?	No

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (% G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/CIRCLE (FT)
3889	1275	35	90	17.1	28.0	93/50	14' 3"	39¼	39½	3¼/33½
3848	1295	33½	87	21.8	37.3	100/70	13' 7¼"	40	36¼	3½/31¼
4583	1290	33¼	88	19.4	31.0	88/35	13' 10¼"	41¼	38¼	3½/32¾
4190	1256	35½	85	24.9	34.5	100/45	14' 7"	40¼	37¾	4¼/32
4674	1272	35½	90	17.0	26.7	100/85	13' 9"	39¼	38	3¼/33



panels getting plastered with road dirt. Fortunately, its uncluttered lines make the Ital an easy car to wash, and, while its carpets seem to grip hairs and fibres, the upholstery shrugs off the impact of children and animals.

Mature engineering and no-nonsense designing promise long-term reliability, which has not always been the case with Austin-Morris products. We are assured that many components have now been 'beefed-up', and, to back the claim, service intervals have been extended.

How safe

Though the Ital's ride and handling can be faulted in some areas, they are vice-free in emergencies. Even the foolhardy will find this 1.3 impossible to wrong-foot.

Braking is equally reassuring. There's a smooth progression in pedal pressure up to the best stop, and only a small build up of fade during a series of hard arrests. The brake linings do not like water, though: it took five stamps on the pedal to restore full braking efficiency after our watersplash test. The handbrake does better, however, by holding the car firmly on a 1-in-3 hill.

The Ital failed the 'well-padded interior' requirement of our safety checklist because of its unpadded windscreen surround. The bay-window arrangement of

the fascia on the passenger's side also puts it very close to the standard toughened windscreen, so there's little to slow the acceleration of an unbelted passenger into the glass... The fuel tank was also too close to the rear of the car for our liking; we like to see it placed well away from the possibility of rear-end impacts.

How much

Currently, the Ital 1.3L is good value for money. Most of the obvious competition is considerably more expensive, and, among the Japanese, only Datsun and Toyota can undercut its price. Our anticipated-depreciation figures are about average for four-door family saloons, but insurance premiums should be much cheaper than most rivals — particularly imports.

Running the Ital should be equally painless on the wallet, as the 1.3 is not only quicker than its predecessor but also uses less fuel. Overall, it is a 2mpg gain, the most-dramatic improvement being made in high-speed motorway cruising, thanks to the more-efficient engine and higher overall gearing. Fuel consumption is also on the right side of average when compared to rivals'. The 11½gal tank may be painfully slow to fill for its last 1½gal, and will spew its golden contents out of the filler on the

first corner, but it does give a good range. Oil consumption is also good at 2000 miles to the pint.

Austin-Morris has put a lot of effort into reducing servicing and repair times. At current prices, the claimed saving is £100 compared to a Marina over a four-year, 48,000-mile period. The major service now comes round at 12,000-mile intervals, and oil, sparkplugs and contact-breaker points last the full term, too; the 6000-mile service is merely a check and reset exercise.

The aluminised exhaust system and viscous-coupled fan are very welcome, too.

If you do your own servicing and maintenance, you can be reassured that there's little easier to work on than the Ital — particularly the 1.3, with its conventional valve adjustment. But — before you write in — yes, we do know about the new Vauxhall Astra and Ford Escort having maintenance-free hydraulic tappets; many owners, however, prefer the idea of keeping things simple and so being able to do-it-themselves, should attention be necessary. The handbook is helpful, but no tools are supplied beyond wheel-changing gear.

Parts are good value and — just as important — easy to obtain. The dealer network is the largest in the country, and the warranty terms are impressive, though

there is no fashionable extended guarantee for bodywork.

Verdict

The Ital 1.3L may look only a face-lifted Marina, but not all its improvements are superficial. Its eager, economical, extended-service engine will be welcomed by owners replacing their ageing Marina 1300s.

Many brand-loyal owners will also feel at home with the familiar eccentricities of the Marina suspension. One wonders, however, how many potential sales this increasingly inadequate design may lose among those new to the breed.

What cannot be doubted is that this sensible, cheaply run saloon is now excellent value for money. And, for many private motorists today, this is all that need be said.

ENGINE

Type and size front-mounted, 4-in-line, water-cooled; 70.6mm bore×81.3mm stroke=1275cc; 3 main bearings with iron block and head

Compression ratio 9.4:1

Valve gear overhead pushrods and rockers

Fuel system one SU HIF44 carburettor fed by mechanical pump from 11½gal tank — no reserve

Max power (DIN-net) 60.8bhp at 5300rpm

Max torque (DIN-net) 69lb ft at 2950rpm

TRANSMISSION

Clutch 8in diaphragm spring, single dry plate, hydraulically operated; pedal load/travel: 24lb/5¼in

Gearbox 4-speed (all synchromesh) and reverse; ratios: first 3.4:1, second 2.11:1, third 1.43:1, top 1:1 and reverse 3.75:1

Final drive 3.89:1 to rear wheels
Mph per 1000rpm 16.8 in top gear

CHASSIS

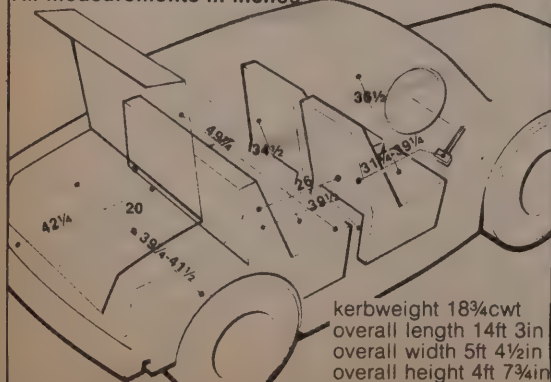
Suspension — front: independent torsion bar, unequal-length transverse links, lever arm dampers forming top links, and anti-roll bar. Rear: leaf-sprung live axle with anti-roll bar. Dampers — lever-arm front, telescopic rear

Steering rack and pinion with 3¾ turns between full locks. Turning circles average 33½ft between kerbs, with 58¼ft in response to one turn of the wheel

Wheels 4½J steel with 155SR-13 steel braced radial ply tyres (Goodyear Grand Prix S on test car)

Brakes dual-line hydraulic; discs front, drums rear with vacuum servo and combined handbrake/line failure warning lamp

All measurements in inches



**Tells you how and why...
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- How your car works
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A close-up photograph of a mechanical device, likely a typewriter or a similar machine, showing several rollers and a strip of paper being fed through them. The image is dark and grainy, with a high-contrast, almost black and white appearance.



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**NEVER BEFORE
HAVE SO MANY
GONE SO FAR
ON SO LITTLE.**



THE 83 MPG METRO.

With the new A-Plus engine and refined and positive gear box the new Metro delivers great performance and great economy.

The 1.3HLS tops 96 MPH and zips from 0-60 MPH in 12.3 seconds.

While the HLE, at an independent test performed by AA engineers, achieved 62 MPG at a steady 50 MPH.

And an astounding 83 MPG at a steady 30 MPH.

Meanwhile a car with the roadholding and manoeuvrability of a Mini is both smooth to drive (specially developed Hydragas suspension) and quiet to drive in.

Its aerodynamics gave the Metro low wind noise, and a structural vibrational analysis in an anechoic (echo-free) chamber did the rest.

WITH 12,000 MILES BETWEEN SERVICES, METRO RULES THE BAYS.

Metros will go 12,000 miles or one full year without a service.

Such technological superiority (Fiesta, Polo, Fiat 127 and Renault 5 all recommend services every 5,000 or 6,000 miles) was made possible by significant engineering breakthroughs.

Every Metro is equipped with long-life spark plugs which don't need cleaning.

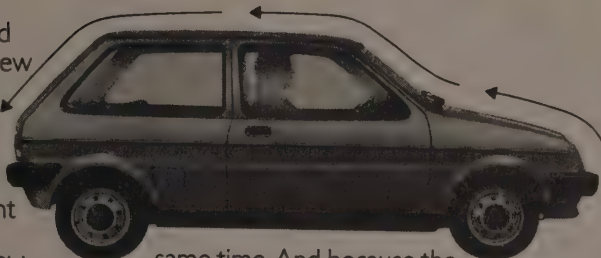
Self-cleaning, sliding contact points are standard, as is a long-life battery which needs topping up only once a year.

A greatly enlarged oil filter and built-in brake pad warning sensors also help Metros go further.

Features like these, along with the precision of the new automated West Works at Longbridge, mean your Metro will stay on the road while other cars are in the garage.

TO SIT OR NOT TO SIT? THAT IS THE QUESTION.

The folding back seat of an ordinary hatchback lets you choose between more seats or space. In a Metro, the asymmetric Split-Action rear seat lets you do both at the



same time. And because the seat is split one third/two thirds, it's uniquely versatile.*

Fold the smaller seat down and two people can sit comfortably beside a safely-stored carry cot or trunk.

Fold the wider seat down and you can carry a mountain of luggage beside one back seat passenger.

EVEN WELLINGTON NEVER IMAGINED A BOOT THIS BIG.

If you fold both seats down the Metro offers more load-carrying space than any hatchback in its class: 45.7 cubic feet.

Even the Fiesta, which is 6 inches longer than the Metro, only manages 42.6.

GREAT SPACE FOR GREAT BRITAIN.

CAR Magazine (May, 1980) said "Metro... stands to be the most space-efficient volume car in history."



That means comfortable.

The newly designed seats are contoured to make long drives feel miles shorter.

While a huge glass area means better visibility front and back, as well as a more relaxed, spacious "feel."

The doors are extra wide. And the front seats don't just fold forward; they slide forward and back automatically.


THIS COULD BE YOUR FINEST HOUR.

There are five new well-equipped Metros: the standard Metro, the Metro L, the super economical Metro HLE, the sporty 1.3S, and the luxurious 1.3HLS.

After each comes out of the most advanced car assembly plant in Europe it is individually inspected for quality of finish.

Inspect one yourself on a test drive.


And imagine getting miles more per gallon in a Metro in 6 months time, when all the best cars the rest of the world have to offer have stopped for a service.

AUSTIN 
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OFFICIAL DEPT. OF ENERGY FIGURES: STANDARD METRO AND METRO L: SIMULATED URBAN CYCLE 38.4 MPG (7.4L/100 KM), CONSTANT 56 MPH (53.1 MPG (5.3L/100 KM), CONSTANT 75 MPH 38.5 MPG (7.3L/100 KM). METRO HLE: SIMULATED URBAN CYCLE 41.5 MPH (6.8L/100 KM), CONSTANT 56 MPH (58.3 MPG (4.8L/100 KM), CONSTANT 75 MPH 41.7 MPG (6.8L/100 KM). METRO 1.3S AND METRO 1.3HLS: SIMULATED URBAN CYCLE 32.8 MPG (8.6L/100 KM), CONSTANT 56 MPH 51.2 MPG (5.5L/100 KM), CONSTANT 75 MPH 37.9 MPG (7.5L/100 KM). *FOLDING BENCH SEAT IN STANDARD METRO. MUDFLAPS ARE ACCESSORIES ON HLE. LOOK FOR YOUR NEAREST AUSTIN MORRIS DEALER IN THE YELLOW PAGES. FOR FLEET SALES RING 021-779 6525 EXT. 2669.



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HITACHI

In a word, reliability.

Untouched by the 14ft Pole

Communist car makers move cautiously. Even in that most-European of Soviet satellites, Poland, the FSO factory has been making the pensioned-off Fiat 125 for the last 12 years. The Polski-Fiat 125P may be yesterday's car, but it also sells at yesterday's price — currently just £2616 on the road.

To their credit, FSO's up-and-coming engineers wanted to try their hand at something new. Limited resources ruled out significant chassis and engine revisions, so the Polonez emerged as the old running gear clothed in an attractive new five-door hatch-back body.

Its price-tag is contemporary, too. At £900 more than the 125P saloon, the Polonez has got to have more than good looks to make it attractive. For DRIVE's testers, it also had to live down

Polonez 1500

Price £3475 On the road (tax)

the memory of faults that plagued the test of its predecessor.

How it goes

Its claimed 76bhp power output gives the Polonez's 1481cc engine an advantage, on paper, over most of the comparably priced 1300cc, 60bhp competition. Our test-track times proved otherwise, for even the similarly powerful 125P is quicker than this stylish stablemate. The snag is its bulk: more than 2cwt of extra kerbweight makes it considerably heavier than many modern front-wheel-drive hatchbacks from Europe and Japan.

Consequently, Polonez performance is strictly class-average. Indeed, if we emphas-

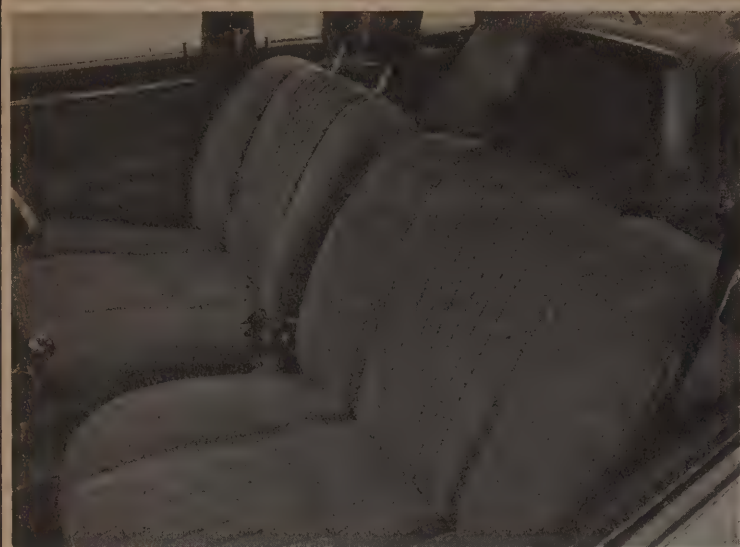
ised 0-60mph times rather than the 30-70mph acceleration that we now quote as a yardstick, the Polonez would compare even more unfavourably. The standard full-revs, wheel-spinning, standing-start procedure used to get 0-30mph times merely set the Polonez stumbling and stalling — hence its languid 5sec performance, achieved by slipping the clutch a little. Top-gear acceleration is thus better from 30mph than 20mph, but the Polonez never feels frisky at any speed. To overtake, one must change down and use the revs freely, ignoring the under-bonnet clamour. There is no point in revving to the furious 7000rpm permitted by the tachometer's red

line; a frenzied 6000rpm proved best for our testers' nerves and the stopwatch.

When driven to such extremes, the wide-swinging gearshift's action remained entirely acceptable, thanks to a powerful synchromesh that avoids unpleasant baulking. First thing in the morning, however, is a different matter; until it warms to its work, the box is sluggish for the initial changes of the day.

Like the Morris Ital — but few others — the Polonez uses lowly leaf springs to hold the back axle. Apart from the inherent handling deficiency of such a system, the Polonez's biggest driving problem is its steering. The snag seems to be excessive castor (yes, just like your tea-trolley's wheels), which keeps the car unswerving on a windy motorway, but makes the going heavy





when swinging into tight turns. Two or three inches of sloppy free-play and the weight of the steering when parking underline the Polonez's handicap. Its general handling is safe: rapid cornering is such hard labour that drivers are unlikely to stray from the straight and narrow — not unless they are really trying!

Stepping inside, everything looks more stylish than in the 125P. The driver's seat support proved to be almost as good as it looks; our only complaint after long spells at the wheel was of aches across the shoulders. The driving position is made more flexible by the inclusion of steering-rake adjustment, which enabled our testers to sit sufficiently far from the high-set pedals and then lower the wheel rim within reach. The time-honoured Fiat backrest adjusters (coarse and fine) are still used on the Polonez seats, but on our test car they were difficult to rotate for fine tuning.

We liked the symmetrical instrument display, with its minor gauges neatly laid out in clear view behind a single non-reflecting pane. Warning lamps for handbrake and choke flash brightly, and the speedometer proves commendably accurate until the motorway limit is past, whereupon it starts to exaggerate dramatically. Some of the rocker switches are an arm's stretch away, but, once you've got there, they all work with a pleasing crispness.

Among the irritations, the handbrake is too long — leaving no room for your thumb to fit between its button and the centre console, the sun visors must be either fully up or down — they won't stay halfway; and, while forward vision is good, an over-the-shoulder glimpse is not easy to achieve, though rear-screen wash-wipe and reversing lamps are fitted as standard. The main-beam range of the halogen head-

lamps is superb, cutting a swathe through the night.

How comfortable

The Polonez's interior makes a good first impression — particularly when you know that the car costs only the same as a Ford Fiesta 1100. The seats look particularly inviting, with their piped fabric and leathercloth inserts, although the plain plastic headrests look utilitarian by comparison. Close inspection of the facia mouldings shows them to be made of an unfortunate, textured black plastic that looks permanently grubby.

Door bases have rubber sealing strips to prevent sills (and ankles and trouser legs) getting dirty. Some people found the door latches awkward and heavy to

HOW GOOD

At-a-glance

DRIVE's verdict on the Polonez 1500, taking into consideration its rivals, its price and what kind of car it's meant to be.

Out of 10

PERFORMANCE

●●●●○○○○○○

FUEL ECONOMY

●●○○○○○○○○

HANDLING/STEERING

●●●○○○○○○○

COMFORT/REFINEMENT

●●●●●○○○○

INTERIOR/LUGGAGE SPACE

●●●●●○○○○

PASSENGER AIDS

●●●●●○○○○

DRIVER AIDS

●●●●●○○○○

ACCIDENT/INJURY SAFEGUARDS

●●●●●○○○○

RUST RESISTANCE

●●●●○○○○○○

EASE/COST OF REPAIR

●●●●○○○○○○

work from outside, and the sill buttons were set at varying heights on our car, so we couldn't tell at a glance whether they were locked.

Rear seating and luggage arrangements seem admirable — until you try to fold the rear seat forward and discover that it won't. Having gone to the trouble of providing a rear tailgate, albeit with a high load sill, FSO has wasted this potential advantage with a fixed load-length and height. Even with the luggage canopy removed, anything bulky tends to rub against the rear window. Rear-seat space and comfort is good, comparing favourably with most rivals; only a central armrest could be added to improve rear-passenger comfort and side support.

Gargantuan ashtrays are provided on both rear doors, and there are no less than four courtesy lamps, controlled by switches on all four doors. A lever beside the driver's seat releases the tailgate — an admirable arrangement, unless its cable breaks, for no outside latch is provided. Nevertheless, all the convenience features are impressive at the price.

The heater works well, and the ventilation is reasonable, but you can't have both together: the facia vents' output is tied to the heater's temperature setting, as in Fiats of old. Consequently, drivers have to be more precise about setting the level of warmth in order to avoid stuffiness.

Anyone used to East European cars such as the Lada and Polski-Fiat 125P will appreciate the Polonez's improved pedal action in slow-moving traffic. The clutch still judders in pull-aways until you learn to master it, but the accelerator acts sweetly and no significant 'flat spots' blighted our test car's low-speed progress — so often an Eastern Bloc non-optional feature.

Our car was slow to fire-up in the morning, however, and its agricultural-sounding starter motor startled our drivers awake, too. Careful choke juggling is necessary for the first mile or so, but the electric cooling fan helps keep this period to the minimum. In town, the normally reliable tickover is liable to become erratic when underbonnet temperatures begin to rise to fan-operating level — as experienced in a summer traffic jam on London's North Circular.

On the open road, the Polonez speeds happily to 60mph with only a background transmission vibration at around 50mph. After 60mph, the engine sets up a body boom that becomes wearisome by 70mph. At low speed, there's a lot of harsh tyre thump over catseyes and ridges, but generally the

POLONEZ 1500

Parts/repairs (inc VAT)

Clutch £50.00 (fitting 3.0hr)
exhaust £48.71 (1.2hr)
headlamp unit £7.36 (0.9hr)
front bumper £73.60 (0.9hr)
laminated windscreen £58.12 (0.8hr)

oil filter and points £5.57 (0.6hr)
major service 6000 miles (2hr)

Insurance group 5

Warranty 12 months/unlimited mileage

Standing costs per year/12,000 miles

Loss of value £222

Capital interest £163

New-cost inflation £610

Total standing costs=£995 (8.29p per mile)

Running costs

Petrol (£1.38p per gal) £591

Insurance (av) £193

Road tax, AA sub £60+£26

Servicing/replacements £197

Total running costs=£1067 (8.89p per mile)

Total cost of ownership

£2062 (17.18p per mile)

HOW IT COMPARES

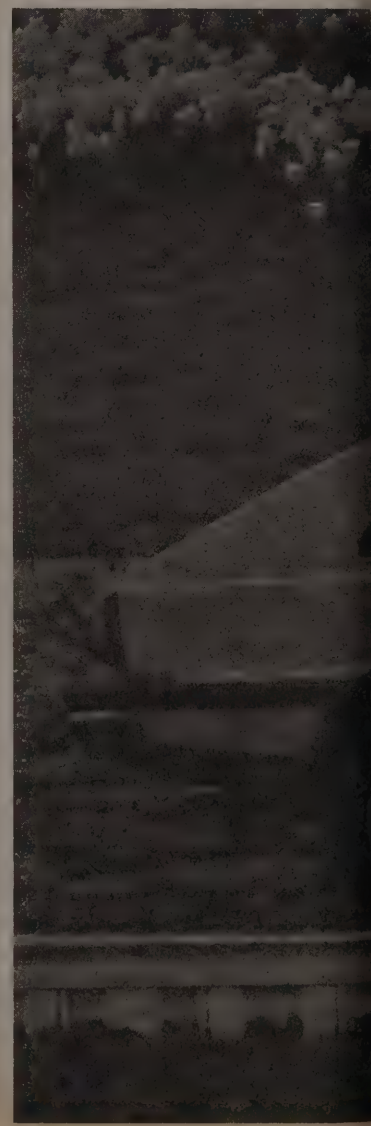
Polonez 1500

Austin Allegro 1300 4-door

Mazda 1300 hatchback

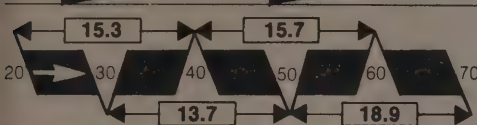
Lada 1600

Opel Kadett LS hatchback



ACCELERATION times in sec

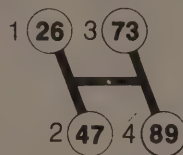
MPH	THROUGH GEARS	IN TOP GEAR
0-30		5.0
30-40	2.6	6.6
30-50	6.5	13.7
30-60	11.9	22.3
30-70	19.2	32.6



Top-gear speed-range times (sec)

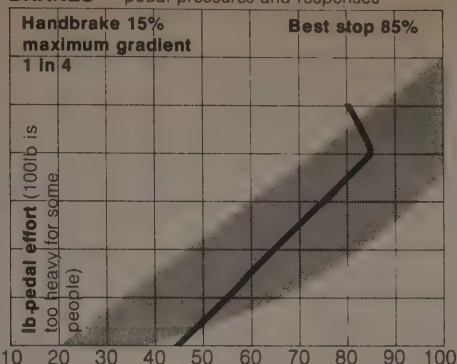
TOP SPEEDS

max engine speed
used 6000rpm;
max in top 5350rpm;
standing ¼ mile
21.0sec



ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (% G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/ CIRCLE (FT)
3532	1481	28	89	19.2	32.6	85/60	14' 0"	39½	39½	3¼/39
3603	1275	36	84	21.5	31.6	90/55	12' 8"	40	41½	3½/34
3695	1272	36½	89	18.7	27.3	100/40	13' 0"	40	37¾	4½/29½
3243	1570	29	92	16.6	23.3	98/30	13' 4"	38¼	37¼	3/36
4125	1297	36½	92	16.0	24.9	98/55	13' 1½"	40½	38½	4/34½

BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)

48lb at start; 48lb in constant use; 130lb in severe use

Watersplash 80lb at first, 3 stops to recover

FUEL 4-star/97 octane min

Consumption — normal range

short journeys in the suburbs	22½mpg
motorway — 70mph cruising	25½mpg
brisk driving, mixed roads	28mpg
gentle driving — rural roads	33½mpg
hard driving, heavy traffic	NA

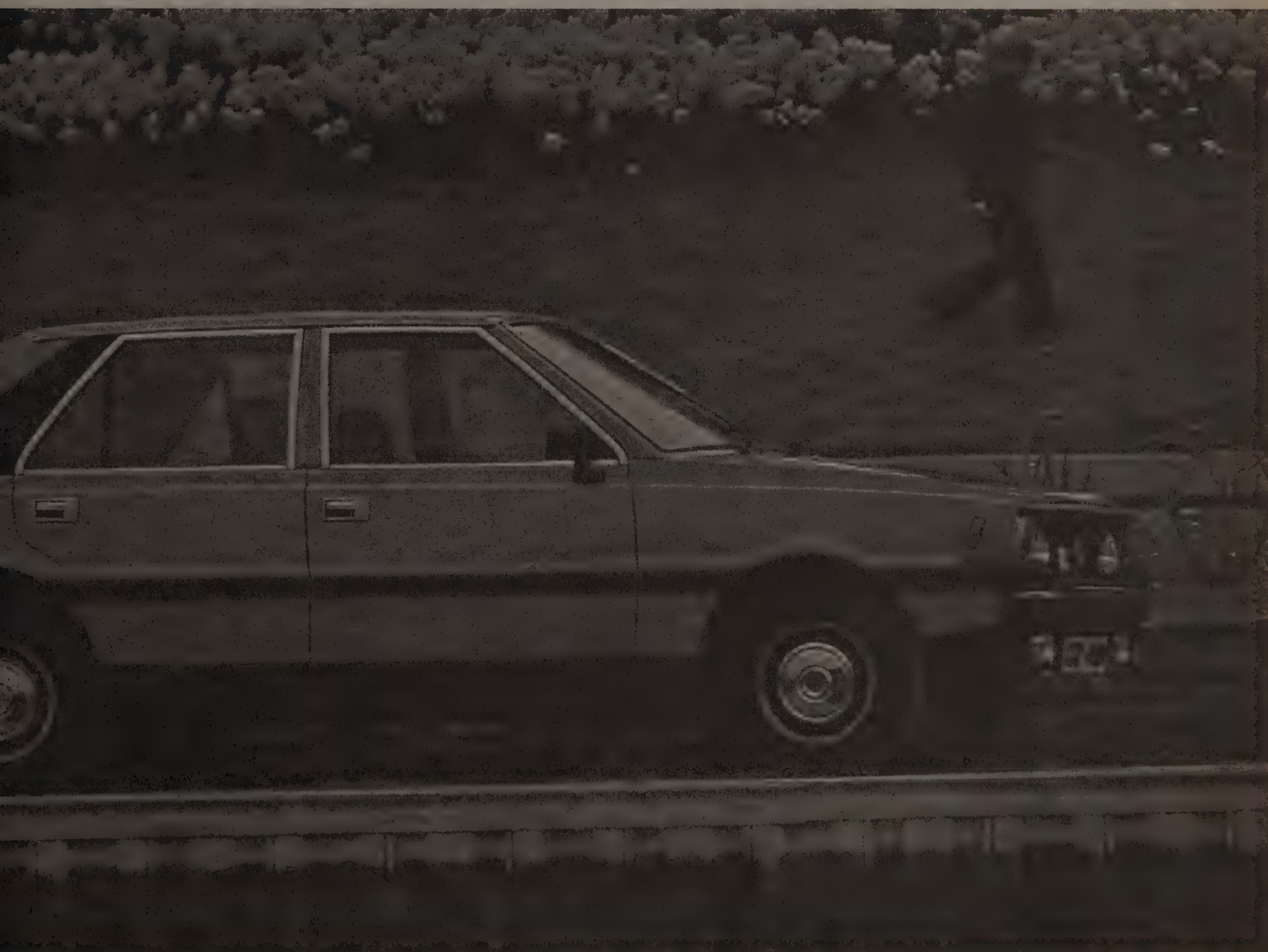
Typical mpg overall 28mpg
Realistic tank range 240 miles/8½gal

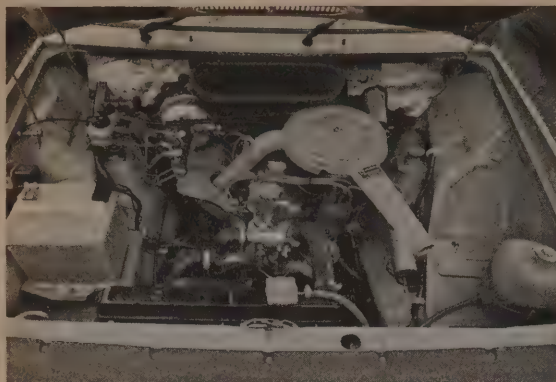
Consumption at steady speeds

30mph	39mpg
56mph	30mpg
70mph	25½mpg
max mph	17½mpg

SAFETY CHECKS

steering: energy		head restraints: front? Yes
absorbing? No		rear? No
good road 'feel'? Yes		interior: well padded? Yes
brakes: powerful? No		w/screen laminated? Yes
sensible effort? Yes		doors: childproof? Yes
fade resistant? No		latches crashproof? Yes
belts: effective? Yes		petrol: shielded
convenient? Yes		filler? Yes
fitted in rear? No		protected tank? No





Polonez rides fairly well and rattle-free over indifferent road surfaces. Its ride is certainly no worse than that of British models which remain similarly faithful to the idea of a crudely located live back axle.

How tough

There are many admirable details on the Polonez, some of which will withstand the rigours of hard use. The rear load sill and wing flanks are designed for everyday misuse, and even the naturally clumsy would have to try hard to mark the Polonez while loading cargo or throwing doors open. At front and rear, generous polyurethane bumpers not only withstand 3mph impacts but are also deep enough to prevent stone-chipping of the lower panels. Similarly, the sills below the doors have a flexible anti-chip coating. High-intensity rear lamps are integrated into the main lighting clusters — not tacked-on as afterthoughts, as is still the case with too many new models. Unfortunately, the front fog-lamps look very vulnerable and are poorly chromeplated. The only other chromed items are the hubcaps and door handles — the latter were already pitting on our test car.

Like the 125P we looked at, the Polonez is conscientiously coated with a flexible anti-rust wax on all visible underbody areas. Yet there was only grey primer paint in box sections and other important concealed areas, where our illuminated probe showed some rust was already forming.

As with our last 125P, the Polonez suffered various faults, including a substantial engine-oil leak, weeping brake pipes, a sub-standard distributor and a total electrical failure. Suspicions about reliability were a constant worry when testing the car, and would, our men felt, be a major disincentive to putting their own money on the line for a Polonez.

How safe

Since the Polonez tends to lumber around rapid corners, its essentially stable handling at the limit of tyre adhesion is seldom appreciated because its wear-

some steering can sap the driver's enthusiasm.

While the car stops well in everyday use, we couldn't better 85% of gravity on our brake-efficiency meter. Our Polonez skidded and pulled to the right — into oncoming traffic — at anything above 60lb of pedal pressure... The servo's assistance wasn't so clever, either, as severe fade set in halfway through our usual 15-stop test: our brake table shows how pedal loads rose alarmingly. It's not uncommon to find handbrake problems on rear disc-braked cars, and our Polonez would have only scraped through the MoT test (again, the 125P fared much better), and a 1-in-3 hill start was simply out of the question.

How much

Just as our Polonez's power seemed to be down on the similarly engined Polski 1500 that we sampled in 1976, so was its fuel economy. Both steady-speed and everyday-motoring consumption tests all pointed to a deterioration of about 2mpg, which makes the Polonez look very thirsty compared to its immediate rivals — even prestigious 2litre saloons can do better nowadays. It seems that, whatever you save on the purchase price of so many Comecon cars, you lose eventually in increased fuel bills. At the present average of £1.38 per gallon, you would spend an extra near-£100 per 10,000 miles on petrol for the 28mpg Polonez, compared to the average for its class of 35mpg. You will need 4-star, too; our test

car pinked mildly even on this diet, despite all of our engineers' careful tuning.

One consolation at the pumps is the ease with which one can fill to the brim, and another is the sensible low-level telltale lamp that warns when just under two gallons remain in the modest-capacity tank. Its range may not be generous, but at least you can make the best of it.

The layout of all tuning items is good, but the starter and alternator are buried low. Fluid checks are easy to make, and the numbered sparkplug lead terminals on the distributor cap are a sensible feature that other makers could follow.

Despite quaint phraseology, the handbook assists home mechanics with helpful, clear illustrations and all the necessary settings. A small box of tools is supplied as well as a reasonable jack, all stowed beneath the luggage platform, together with the spare wheel. Of course, fewer of the bits are common with the old Fiat 125, but the Polonez's ancestry is worth bearing in mind when parts are needed fast, for there are only 90 Polski dealers in the UK at present.

Recent Polski 1500 resale values do not seem to have suffered great depreciation; they're about the same as a Lada 1300's, and rather less than a Ford Popular's, when replacing a 2½-year-old with the same again. Only an Austin-Morris Mini and a Ford Fiesta are likely to hold their values significantly better. Whether the dearer-to-buy Polonez will do

as well is a matter for conjecture and future pricing, but we suspect that depreciation will be worse than the base Polski. Insurance is a costly group 5 — the same as a VW Golf GTi!

Verdict

We found the Polonez's new clothing elegant and functional. Its attractive trim and generous equipment have been designed with practicality in mind, and only the omission of a folding rear seat curtails its versatility.

Sadly, this good start was undermined by our test car's unreliability, and, although its humble Italian origin has been disguised to some extent by improved controls and seating, Cinderella's mask slips in the hands of any driver who tries to have a ball.

Despite its polished appearance, the Polonez remains a very staid character with unremarkable refinement and manners — and a well-developed thirst.

ENGINE

Type and size front-mounted, 4-in-line, water-cooled; 77mm bore×79.5mm stroke=1481cc; 3 main bearings with iron block/alloy head

Compression ratio 9.0:1

Valve gear overhead pushrods and rockers (chain driven)

Fuel system one Fodsz-Ledz twin-venturi carburettor fed by mechanical pump from 9.9gal tank, with low-level warning lamp

Max power (DIN-net) 76bhp at 5250rpm

Max torque (DIN-net) 85lbft at 3300rpm

TRANSMISSION

Clutch 7.9in diaphragm spring single dry plate, cable operated; pedal load/travel: 33lb/6in

Gearbox 4-speed (all synchromesh) and reverse. Ratios: first 3.75:1, second 2.13:1, third 1.38:1, top 1:1 and reverse 3.87:1

Final drive hypoid level 4.10:1 to rear wheels

Mph per 1000rpm 16.6 in top gear

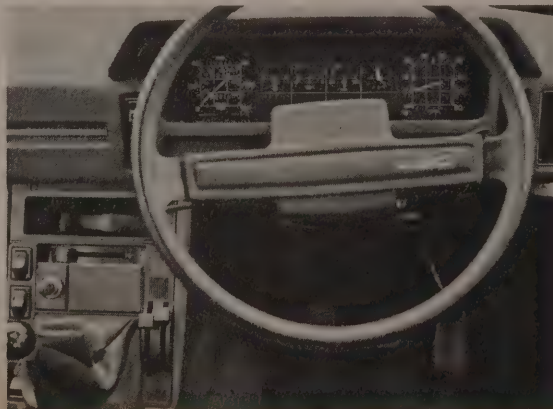
CHASSIS

Suspension — front: independent double wishbones with coil springs and anti-roll bar. Rear: live axle with semi-elliptic leaf springs. Dampers: telescopic all round.

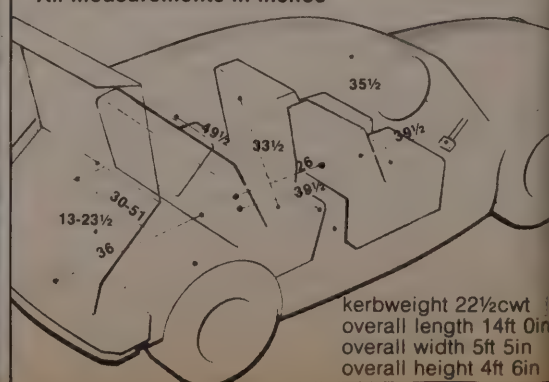
Steering worm and roller with 3¼ turns between full locks. Turning circles average 38ft between kerbs with 56½ft in response to one turn of wheel

Wheels 5J (steel) with 175SR13 radial-ply tyres (Dunlop SP4 on test car)

Brakes dual-circuit hydraulic; discs all round with vacuum servo, load-sensitive rear valve, and line-failure/handbrake-on warning lamp



All measurements in inches



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Age _____

Wife's/Husband's full names _____

Age _____

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Address _____

How long employed by them? _____

Occupation _____

Wife's/Husband's Occupation _____

Name and Address of Bankers _____

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Your Wife's/Husband's gross income £ _____ Wk ☐ Mth ☐ Yr ☐

Other family income £ _____ Wk ☐ Mth ☐ Yr ☐

(Please attach current payslips as proof of income)

Outgoings

Total Outstanding Total Monthly Payments Total Arrears (if any)

First Mortgage £ _____ £ _____ £ _____

Linked Endowment premium £ _____

Second Mortgage £ _____ £ _____ £ _____

H/P Credit Sales £ _____ £ _____ £ _____

Bank/Personal Loans £ _____ £ _____ £ _____

Full name and address of First Mortgagee _____

Ref. No. _____

Name of Second Mortgagee _____

Ref. No. _____

Details of Property

'Freehold/Leasehold—if leasehold years' unexpired _____

Is any part of it let? YES/NO. Jointly owned? YES/NO.

When did you purchase? _____ Price Paid? £ _____

What is it worth now? £ _____

Reason for increase? _____

Protected Payment Insurance

Would you like insurance to cover your payments whilst off work through sickness or accident? ☐ Yes please send details. ☐ No.

I/We confirm that the information herein contained and supplied by me/us is correct to the best of my/our belief. Signature of applicants

1. _____

2. _____

(Both husband and wife to sign where applicable)

Date _____

MONTHLY REPAYMENTS					
Representing a true annual rate of charge of 29.84%					
Amount Required	36 Monthly Repayments	60 Monthly Repayments	90 Monthly Repayments	120 Monthly Repayments	
£ 500	20.26	15.09	12.81	—	
750	30.38	22.64	19.21	—	
1000	40.51	30.18	25.62	23.75	
1500	60.76	45.27	38.42	35.62	
2000	81.01	60.36	51.23	47.49	
3000	141.77	105.83	99.65	83.11	
4000	202.52	150.89	128.07	118.72	
5000	263.28	196.16	166.49	154.34	

(Alternative repayment periods and amounts required are available on request.)



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INDEX OF MOTORING EXPENDITURE JULY 1979-JUNE 1980

Midlands motorists show how to save

IF YOU want to know how to cut your motoring expenses, take a trip to the Midlands and flag down the first driver you see. The chances are you will learn a thing or two, for the Midlands' motorists have taken over from drivers in the North of England as Britain's thriftiest car owners.

Back in 1976, the DRIVE Index showed that the North's motorists spent (at 1980 values) 8.4p a mile — 0.2p less than the Midlands' runners-up. But in the following years of oil crises and government pleas to 'Save It', drivers in and around the Black Country have turned the tables: in 1979-1980 they spent 7.8p a mile against the North's 8.5p.

Not that the Energy Department will be awarding any medals to the Midlands. Of the five AA regions reviewed, the Midlands' area (stretching from Oswestry in the west to Lowestoft in the east) recorded the worst average mileage reduction of the lot — a paltry 2%. The Northerners did little better: they cut back by only 3%. It was Wales and the West country that responded best of all to the government's urgings on conservation: a thumping 10% reduction.

Obviously, these economies have been influenced by rising

unemployment figures, the tendency for fuel to be more expensive in remote regions, and the higher incidence of drivers aged 65 and over in Wales and the West. Owners there also appear to run older cars compared to the rest of Britain — another likely reason for their driving fewer miles than anyone else. The snag is that sparing use of their car does not save low-mileage motorists from such standing costs as road tax, insurance and Department of Transport roadworthiness tests, all of which affect their overall driving expenditure.

Like motorists in Wales and the West, car owners in the South-east and Scotland have also bettered the government's 5% cut-back call — both by 2%. But Southerners, too, are reaping scant reward for their efforts. Their comparatively old cars, relatively high insurance premiums, and costlier parking have taken their toll, effectively making them 17% worse off than motorists in the Midlands.

Nonetheless, the intriguing question remains: if Midlanders

haven't been going easy at the petrol pumps, how is it that they are still spending less per mile? As our figures show, they have economised hugely on servicing and repairs, spending (at 1980 prices) nearly £5 a month less than they did in 1976, and around £6 a month less than motorists in some of the other regions.

Surprisingly, this does not imply that they are skimping on safety. Mike Sadler-Brookes, senior engineer at the AA's Vehicle Inspection Centre, W Bromwich, comments: 'We haven't seen any evidence of risk-taking. The likeliest explanation is that drivers are doing more of their own maintenance. After all, it's estimated that one in five of the West Midlands' population is employed by the automotive industry.'

'Another probable reason is that many mechanics are moonlighting and undercutting the garages. People soon find out where they can get jobs done cheaply.'

The Index also confirms that, despite the rises in petrol costs since 1976, motorists in all reg-

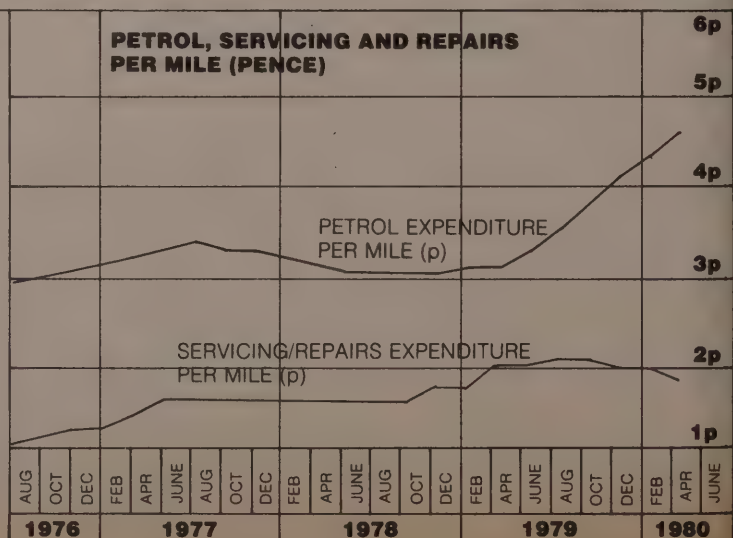
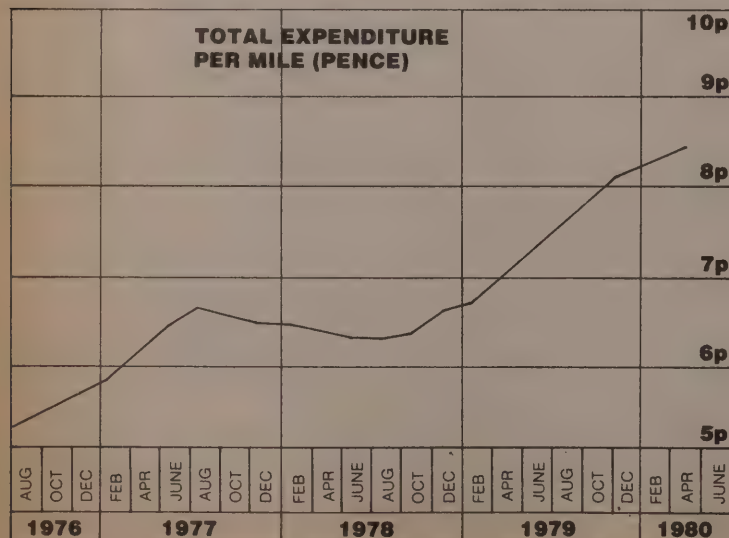
ions are today spending *less* per mile in real terms — almost 10% less in the case of the Midlands, and 5% less in Scotland. This has been achieved only by a drop in average mileage — down 70, 57 and 51 miles per month in Wales and the West, Scotland, and the South-east respectively.

● DRIVE's Index is the only exhaustive guide to the average motorist's expenditure. In this unique survey, 1000 owners (picked at random each month) are interviewed on the number of miles they have driven, the amount of petrol they've bought, and all other outgoings.

The results of these interviews are then added to the data from similar surveys in the previous 11 months. So, in addition to analysing the combined experiences of 12,000 drivers each year, the Index succeeds in ironing-out seasonal fluctuations.

Three main areas of expenditure are highlighted: fuel, servicing and repairs, and insurance. Road tax and miscellaneous items of spending are shown as 'All other expenditure'.

MOTORING EXPENDITURE (comparisons between the year ending December 1976 and the 12 months ending June 1980)	South-east		Midlands		Wales & West		North		Scotland	
	Jan-Dec 1976 (1980 prices)	Jul 1979-Jun 1980	Jan-Dec 1976 (1980 prices)	Jul 1979-Jun 1980	Jan-Dec 1976 (1980 prices)	Jul 1979-Jun 1980	Jan-Dec 1976 (1980 prices)	Jul 1979-Jun 1980	Jan-Dec 1976 (1980 prices)	Jul 1979-Jun 1980
Petrol	38.88	36.47	35.38	34.03	37.00	33.31	36.94	36.63	41.68	37.34
Servicing/repairs	17.68	14.27	13.30	8.52	16.10	14.34	14.47	14.95	16.99	13.40
Insurance	5.58	5.41	5.18	4.97	4.93	4.62	5.39	4.98	5.78	5.86
Other expenditure	10.14	9.86	8.90	8.17	10.52	8.62	9.57	8.74	10.51	9.47
TOTAL EXPENDITURE	72.30	66.02	62.77	55.70	68.56	60.89	66.38	65.30	74.96	66.07
Average age of car	—	7.3	—	7.1	—	7.9	—	6.7	—	5.6
Average monthly mileage	773	722	731	716	736	666	793	772	816	759
EXPENDITURE PER MILE										
Total	9.4	9.1	8.6	7.8	9.3	9.1	8.4	8.5	9.2	8.7
Petrol	5.0	5.1	4.8	4.7	5.0	5.0	4.7	4.7	5.1	4.9
Servicing/repairs	2.3	2.0	1.8	1.2	2.2	2.2	1.8	1.9	2.1	1.8



from the Black Country

EXPENDITURE AND MILEAGE BY ENGINE SIZE, AND YEAR OF REGISTRATION

KEY: Total expenditure per mile; Petrol expenditure per mile; Servicing/repairs expenditure per mile; Average monthly mileage.

Engine capacity (cc)	Year of registration										
	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	Pre 1970
Up to 1050	7.6 4.0 1.6 681	6.6 4.1 0.7 718	6.6 3.9 0.7 700	7.5 4.1 1.4 574	7.6 4.1 1.1 569	8.0 4.7 1.7 544	10.9 4.7 3.2 453	9.5 4.2 3.1 510	10.4 4.2 3.9 444	6.6 4.0 0.1 478	11.4 4.4 4.0 439
1051-1250	7.3 4.5 1.0 943	6.2 4.2 0.4 826	11.1 5.5 3.4 588	8.0 4.3 2.0 811	8.5 4.3 2.4 670	8.4 4.6 1.8 670	7.5 4.8 0.6 580	9.0 4.6 1.9 553	7.9 4.7 1.2 565	10.4 5.4 2.7 508	9.8 5.0 2.4 454
1251-1550	6.6 4.4 0.5 1029	6.7 4.4 0.7 910	8.1 4.8 1.5 751	8.9 4.9 1.6 667	8.3 5.1 1.5 711	8.8 5.0 1.8 614	9.3 4.3 3.0 734	10.1 4.9 3.4 581	8.9 4.7 2.3 559	8.7 5.0 1.5 531	11.1 5.4 3.1 481
1551-1650	7.1 5.0 0.7 1227	7.2 5.0 0.8 997	7.9 4.8 0.8 879	9.9 5.7 1.9 779	9.7 4.6 1.9 811	10.7 5.8 2.9 709	10.4 5.8 2.9 666	11.0 5.8 2.3 638	9.0 6.2 0.9 636	9.5 5.5 2.2 564	9.1 5.4 1.6 527
1651-and over	6.8 5.3 0.1 1255	7.3 4.7 1.1 1258	7.3 5.0 0.9 1089	8.6 5.1 1.7 946	10.3 6.3 2.1 787	9.4 5.5 2.3 808	10.4 5.8 2.7 753	11.1 5.3 3.8 722	10.9 6.1 2.3 631	10.5 5.1 3.7 702	9.9 6.1 2.0 646

LOOKING for a new car? Then consult this table before you leap, as it reveals the age at which cars of the engine size you want become expensive to run.

Our survey shows that it's inadvisable to buy a model of less than 1050cc unless it's younger than six years old. Other models to avoid are two-year-olds of 1051-1250cc, and three-year-olds of 1551cc and over.

The Top 10 new-car sellers in June (source, the Society of Motor Manufacturers and Traders) were: 1 Ford Cortina, 2 Ford Escort, 3 Ford Fiesta, 4 Austin-Morris Mini, 5 Vauxhall Chevette, 6 Morris Marina, 7 Renault 18, 8 Ford Capri, 9 Ford Granada, 10 Fiat 131.

The most sought-after used cars (source, Computacar) were: 1 Ford Escort, 2 Ford Cortina, 3 Austin-Morris Mini, 4 Ford Capri, 5 MGB, 6 Renault 5, 7 Ford Granada, 8 Triumph Spitfire, 9 MG Midget, 10 VW Golf.

EVER HEARD the tap-room tale that foreign cars are cheaper to run than British-made models? In reality, as this table demonstrates, there is little practical difference when model age and engine size in the respective samples are taken into account.

These factors are significant as, the older a car gets, the costlier it is to service and repair. Engine size also influences fuel costs.

At first glance, Fiat would seem to be the wisest choice, with total expenditure running at 7.5p per mile. Likewise, motorists might well be tempted to steer clear of the Talbot range. But note the difference in the two ranges' average age, and Fiat's advantage is partly explained.

MONTHLY EXPENDITURE NATIONALITY AND MAKE ANALYSIS (post-1970 cars, average engine size in brackets)

	Mileage	Average age of car (years)	Petrol expenditure per mile (pence)	Servicing/repairs expenditure per mile (pence)	Total expenditure per mile (pence)
BRITISH	762	5.8	5.0	1.8	8.6
BL Cars (1525cc)	689	6.0	5.0	2.1	9.0
Ford (1550cc)	847	5.5	5.0	1.5	8.5
Talbot/Chrysler (1425cc)	715	6.0	5.1	2.2	9.1
Vauxhall (1475cc)	822	5.7	4.6	1.7	7.9
FOREIGN	788	4.8	4.8	1.4	8.3
French	786	5.1	4.8	1.5	8.6
Italian	746	4.6	4.5	1.2	7.5
Japanese	733	4.2	4.7	1.2	8.3
W German	877	5.4	4.8	1.2	7.8
Datsun (1325cc)	702	4.2	4.8	1.3	8.7
Fiat (1200cc)	709	4.8	4.4	1.2	7.5
Renault (1275cc)	735	5.2	4.9	1.2	8.7
Volkswagen (1350cc)	725	5.5	4.7	1.2	7.7

AVERAGE MILEAGE AND EXPENDITURE, excluding depreciation

MONTH-BY-MONTH ANALYSIS (all cars)	Mileage	Petrol (£)	Servicing/repairs (£)	Insurance (£)	All other expenditure (£)	Total expenditure (£)	Total expenditure per mile (pence)	Petrol expenditure per mile (pence)
June 1980	806	40.86	16.16	5.43	10.12	72.56	9.0	5.1
May 1980	763	40.11	10.80	5.33	9.44	65.67	8.6	5.3
April 1980	714	39.05	15.78	5.28	9.04	69.15	9.7	5.5
March 1980	674	37.49	13.91	5.36	8.22	64.99	9.6	5.6
February 1980	636	32.90	13.45	5.11	7.33	58.77	9.2	5.2
January 1980	626	31.63	10.22	5.04	7.76	54.64	8.7	5.1
December 1979	676	34.06	10.88	5.11	7.60	57.64	8.5	5.0
November 1979	685	33.07	13.79	5.00	8.47	60.33	8.8	4.8
October 1979	687	34.19	14.25	5.01	7.39	60.85	8.9	5.0
September 1979	764	33.76	11.38	4.91	7.96	58.02	7.6	4.4
August 1979	839	35.64	11.31	4.92	8.62	60.49	7.2	4.2
July 1979	720	34.28	17.93	5.06	8.03	65.30	9.1	4.8

PRESENT AND PAST ANNUAL EXPENDITURE (all cars)

July 79-June 80	8590	427.04	159.86	61.56	99.98	748.42	8.7	5.0
July 78-June 79	8882	296.95	186.42	55.89	107.50	646.76	7.3	3.3
July 77-June 78	9171	285.48	153.21	47.68	97.43	583.81	6.4	3.1
July 76-June 77	8711	294.62	141.86	41.85	85.59	563.93	6.5	3.4

All other expenditure includes such items as road tax, parking, AA subscriptions, accessories, etc

THE SIGNS are that the cost of petrol is beginning to lose its 'Save It' incentive effect. In May-June 1980, motorists covered an average of 90 miles more than in the same period last year, when the price of petrol rose steeply.

The effect is surprising: mileage in May-June of this year was up by 181 on the previous two months to 1569 — but the fuel bill was down from 5.5p to 5.2p per mile on average.

If petrol prices had remained static, motorists would have spent nearly £9.98 more on the extra distance driven. In fact, the increased mileage put £4.43 on average fuel expenditure in May-June.

All this has brought the DRIVE Index (set at 100 points when it began, in October 1973) to 246 points; ie, motorists spent 146% more between July 1979 and June 1980 than seven years ago.

MONTHLY EXPENDITURE OF OTHER POPULAR MODELS* (post-1970)	Mileage	Average age of car (years)	Petrol expenditure per mile (pence)	Servicing/ repairs expenditure per mile (pence)	Total expenditure per mile (pence)
Austin-Morris Mini 850	529	6.2	4.3	3.2	9.5
Ford Fiesta	833	2.9	3.6	0.2	5.2
Renault 12	590	6.0	5.2	0.9	10.4
Talbot/Chrysler Alpine	1013	2.7	4.7	1.4	7.7
Triumph Dolomite 1500	615	6.7	6.1	3.3	11.8
VW Beetle	658	7.8	4.2	2.0	8.1

*Unlike the larger table of post-1970 cars, the figures above are an approximation of likely expenditure, necessitated by the smaller sample of cars represented.

THE HALF-DOZEN cars listed here are seen on our roads in large numbers. But because their frequency in our survey is smaller than the models in the table

below, the figures here can give only an impression of how much they cost to run.

True to form, owners of the youngest of the bunch, the Ford

Fiesta, spent a creditable 5.2p per mile. Owners of the bigger Talbot Alpine, another model under three years old, recorded the next-best outlay 7.7p per mile.

MONTHLY EXPENDITURE MODEL-BY-ANALYSIS (post-1970 cars)	Mileage	Average age of car (years)	Petrol expenditure per mile (pence)	Servicing/ repairs expenditure per mile (pence)	Total expenditure per mile (pence)
Austin-Morris Mini 1000	564	5.6	3.9	1.2	7.5
Allegro 1300	723	4.2	4.2	2.6	8.5
Maxi 1750	702	6.3	5.1	2.5	9.3
Marina 1300 Mk 1	546	7.4	5.3	2.6	10.1
Marina 1300 Mk 2	929	3.0	4.4	0.1	5.8
Marina 1800 Mk 1	611	7.3	5.6	3.8	11.6
Datsun Cherry	580	4.1	4.7	2.3	9.4
Sunny 1200	780	4.4	4.0	1.0	7.5
Ford Escort 1100/Popular Mk 1	533	7.7	5.4	1.4	9.3
Escort 1300 Mk 1	642	7.4	5.0	2.5	9.4
Escort 1300 Mk 2	935	2.9	4.5	0.8	7.1
Cortina 1300 Mk 3	691	7.4	5.8	2.5	10.9
Cortina 1600 Mk 3	721	7.1	5.6	2.3	10.0
Cortina 1600 Mk 4	1150	2.3	5.1	0.4	7.0
Cortina 2000	992	5.0	5.0	1.4	8.3
Capri 1600	884	5.9	4.4	1.4	7.7
Talbot/Chrysler Avenger	697	6.6	5.2	2.1	9.1
Hunter	636	7.2	5.3	3.6	10.7
Vauxhall Viva 1300	682	6.7	4.4	2.1	8.2
Chevette 1300	1005	3.4	3.8	1.1	6.5
Cavalier	1115	2.8	4.5	0.8	6.9

HERE ARE the commonest cars on Britain's roads and in our survey's 12,000 sample.

Of special interest, because of the similarity in their ages and average monthly mileage, are the Morris Marina 1300 Mk2, Ford Escort 1300 Mk2, and Vauxhall's

successful Chevette 1300 model.

The comparison earns a pat on the back for BL Cars. In the year ending June 1980, the Marina owner's total expenditure per mile of 5.8p compares most favourably against that for the two other models: Chevette own-

ers part with 6.5p per mile, and Escort drivers 7.1p.

But it's the Chevette owner who tops the fuel consumption table — an impressive 3.8p per mile. Hard on his heels come the Austin-Morris Mini 1000 driver, spending (3.9p).



Last year, the Vauxhall Chevette was in the Top 10 of bestsellers; it's at the top of our fuel-expenditure table, too

Long-range forecast for the year 2005

£9164 PER YEAR to run a car — that's the figure predicted by our Index researchers for 25 years' time. Within this staggering amount is an annual petrol bill of £5572 and one for servicing and repairs of £1692. Don't be too disheartened, though, for you'll also be earning about £952 per week, if inflation continues to increase at an average of 10% per year to the end of the century — as many leading economists are currently predicting.

It's not just straightforward cost inflation that faces today's younger drivers. As graph 3 shows, expenditure on petrol (adjusted to today's prices) will be more than double 1980's level by 2005 — and our forecasts allow for an improvement in consumption of about 1% per annum as technical developments improve engine efficiency.

No change in fuel source is anticipated. Despite talk of a return to steam-, electricity- or gas-powered cars, Index researchers expect that personal transport will continue to rely on oil-based fuels, while industry and heating systems use coal or gas. Also taken into account in the figures is a probably decrease in the average size of car engines. At present, 58% of cars registered within the past 10 years have engines of 1300cc or less, and this proportion will probably rise to around 75% by year 2005.

Our first graph shows that one of the most-important trends will be further increases in the proportion of foreign cars on British roads. Taking the trend for cars registered within the last 10 years (about 66% of all cars on the roads), the current proportion of 27% is predicted to rise steadily to more than 85% by 2005 — aided by foreign cars penetrating the secondhand market.

Within this time, however, government forecasts suggest that the number of private cars will increase from more than 14million to about 23million, so there will still be a considerable market for British-built cars. The move towards foreign car makes will be reflected in the increased numbers of smaller-engined cars, and lower fuel and servicing/repair costs per mile. Average insurance premium levels for such cars will remain inflated, however, until the market shares of particular foreign makes

increase to help the prices of spare parts and repairs fall.

Generally, Index researchers expect mileage per car to remain at today's level of 8000-9000 a year. The factors influencing this assumption are an increase in multi-car households, and motorists' reactions to increased fuel prices, both of which will tend to lower the average mileage of each car. This trend will be balanced by the effects of further declines in public transport services, particularly in rural areas, and an increase in the number of driving licences per household. The peak of 9000 miles per year in our second graph, in 1985, reflects expected improvements in the British economy in the mid 1980s, when more disposable income should be available following the current recession.

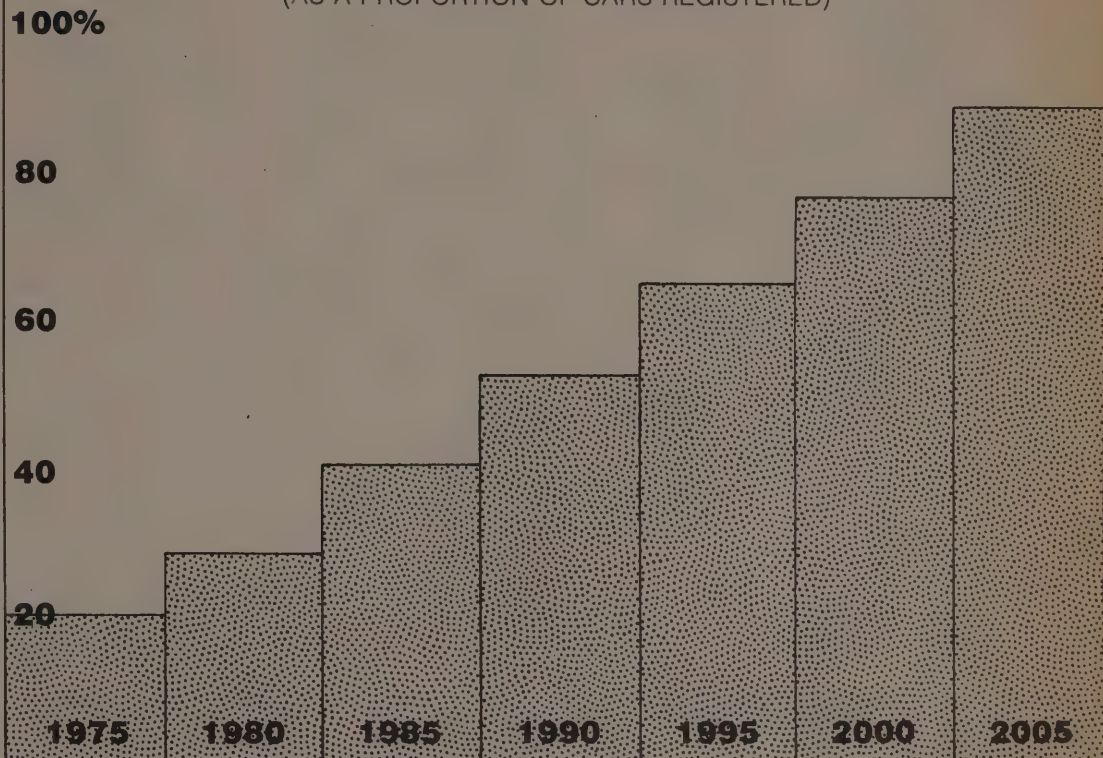
In calculating the cost of 2005's servicing and repairs, we have allowed for an extension of the current trend towards cars that require less-frequent servicing and are easier and cheaper to service and repair. Our figures are based on a 10% per year increase for inflation, but reduced by 1% per annum to allow for these improvements. Insurance and 'Other' costs will tend to increase in line with inflation, leading to no true increase in motorists' expenditure. This prediction will be affected, of course, by changes in vehicle taxation.

The future according to the Index's compilers is not, therefore, as bleak as it might first seem. Their message is that the private car is here to stay — until year 2005 at least — and that improvements in its engineering will make a significant contribution towards moderating rises in motoring costs.

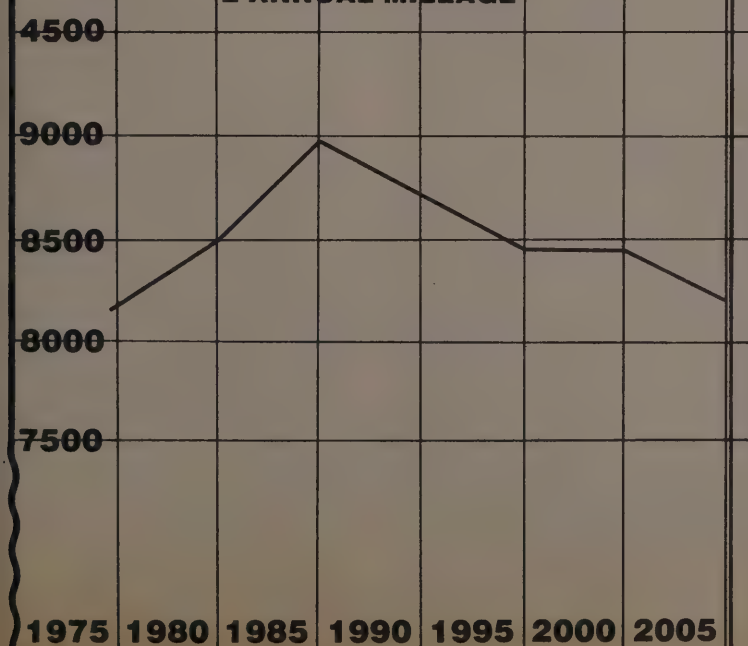
ANNUAL EXPENDITURE 1975-2005

End year						COSTS PER MILE			
	Petrol (£)	Servicing/Repairs (£)	Insurance (£)	Other (£)	Total (£)	Annual Mileage	Petrol (£)	Servicing/Repairs (£)	Total (£)
1975	250.8	94.6	32.8	70.2	448.4	8175	3.07	1.16	5.48
1980	515.2	183.2	66.6	108.8	873.8	8500	6.06	2.15	10.28
1985	829.4	285.8	107.4	175.2	1397.8	9000	9.22	3.17	15.53
1990	1335.4	445.9	172.9	282.1	2236.3	8750	15.26	5.10	25.56
1995	2149.9	695.5	278.4	454.3	3578.1	8500	25.29	8.18	42.09
2000	3461.4	1085.0	448.2	731.4	5726.0	8500	40.72	12.76	67.04
2005	5572.9	1692.6	721.6	1177.5	9164.6	8250	67.55	20.52	111.09

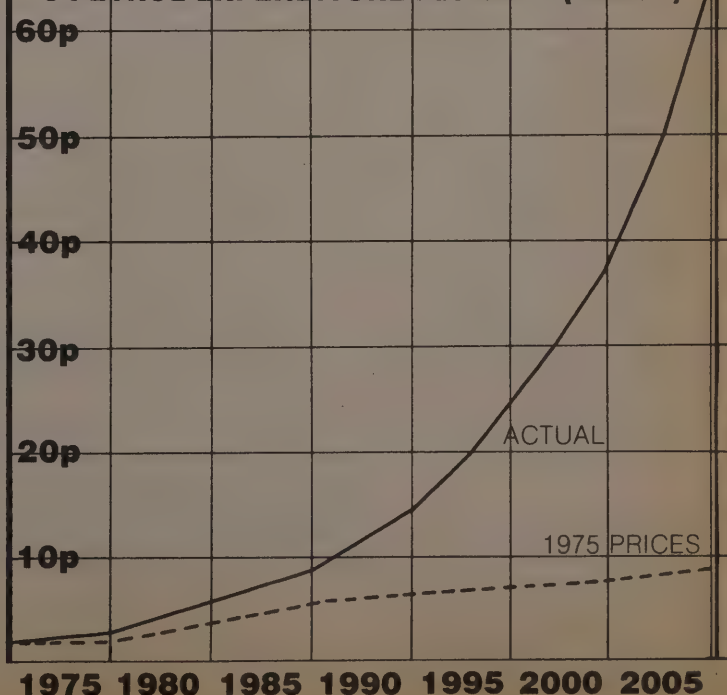
1 FOREIGN CAR PRESENCE (AS A PROPORTION OF CARS REGISTERED)



2 ANNUAL MILEAGE



3 PETROL EXPENDITURE PER MILE (PENCE)



M1 - a hard shoulder to cry on

It's 21 today — well, 2 November, to be exact. MIKE HILL presents the key to the doorway to 'Hatfield and the North' and remembers the early days on the road



WHEN THE then-Transport Minister Ernie Marples (above) radioed for the barriers to be lifted on the first section of the M1 on Monday 2 November 1959, he wondered quite what he'd unleashed. Next day in the papers, he declared himself 'frightened' at the disregard for safety as hundreds of trucks and cars poured on to the broad new highway at unheard-of speeds.

Some things haven't changed — police chiefs and transport ministers still berate motorists for reckless driving on motorways, and the M1 in Northamptonshire is dubbed 'Lemmings Way' by traffic police.

Other things *have* changed in 21 years of our first major M-way: traffic has climbed to levels that couldn't have been envisaged at planning stage; some sections have been literally worn out; speeds have come down — remember the days when AC tested Le Mans cars at 200mph on dawn runs? We've gained M-way lighting, safety barriers, fog lighting... and 'motorway madness'.

For some people, the M1 has been a vital part of working life.

Peter Tabiner was a young constable on 2 November 1959, as he eased his Ford Farnham Estate down the slip road, to start Northamptonshire's first M-way patrol. Just 10 minutes later, he was called to the first M1 acci-

dent, as two trucks clipped each other in the poor, early-morning light. With his colleague John Mays, Tabiner has seen 21 years of the motorway in various capacities. Both are now chief inspectors, with enough M-way stories to fill a book.

It was John Mays who took

charge of the horrendous accident in 1974 when more than 200 vehicles piled into each other in the fog. And 15 years earlier, it had been Peter Tabiner who'd had to deal with the very first fatal accident; fog again was the culprit.

It was Mays who found a Dutch family ensconced on the

central reservation, cooking beans and toast; and another of Tabiner's colleagues received, full-frontal, the contents of a baby's potty when he went to investigate a motor-caravan camped on the hard shoulder.

'We've stopped an old lady of 80 who was cycling up the motorway,' recalls John Mays. 'And we've certainly had people driving the wrong way, especially in the early days before the crash barriers were erected. Then there was the coach crash with 22 Irishmen from a tug of war team; all escaped injury because they were so inebriated that they just fell about.'

There was the panic after reports of cars being shot at; among the debris of shattered windscreens and peppered vehicles, Mays found that a case of cartridges had fallen from a passing truck and were exploding as cars ran over them.

Less easily solved was the mystery of the piano and stool parked on the hard shoulder! 'And there was the day that we all turned green,' remembers Mays. 'We were called to an overturned lorry in the snow; as we stood there, we noticed that we were all going green. Canisters of copper chemical had exploded on impact, gone into the atmosphere and then come down again with the snow!'

It's not all laughs on the M1, of course. It was no laughing matter to pull the dead driver of an E-type from his wreck after a 110mph smash caused by only one of the four brakes working when applied. It's no great satisfaction for Northants police to hold the 'record' for the number of dead in one vehicle (seven) or the biggest pile-up (201 vehicles).

They've seen silly accidents; a coach fitted with the wrong tyres that blew-out at high speed; a horse embedded in a VW Beetle because someone had left a farm gate open. And the complete 'fluke' accidents: the articulated lorry full of scaffolding which stopped so suddenly that a following van impaled itself on its tail, killing the driver. Mays found that a passing car had thrown up something that had knocked off the air-brake tap and triggered the 'deadman' brakes.

John Mays is happier to remember the sight of his patrol officers conducting community singing with four coachloads of



'Once I built a real road, now it's done' — memories of 1959

kids perched on the embankment after a coach broke down.

Mick Munnery must have passed Mays and Tabiner hundreds of times in the past 21 years. Mick Munnery is a trucker. Today, he runs his own truck-delivery business, but in November 1959, he was running trucks around the country for a general haulier. 'We weren't supposed to use the motorway. Trucks were blowing tyres all over the place. You have to remember that there had been a 20mph-limit for trucks on ordinary roads, and a truck that could do more than 40 was a fast motor. Tyres just weren't up to it: remoulds and recuts were fine at around 20mph, but on the motorway . . . our guv'nors were not at all happy.'

'Vehicles improved and got faster, though; now, I wouldn't dream of travelling north without the M1. It's been the biggest thing in transport. Should have been built years before. You imagine all that lorry traffic now using the old roads. You'd never move anything.'

The M1 changed more than that. It changed an attitude among drivers. 'It's a lonely place,' says Mick. 'In the old days, there wasn't the mad rush. You'd arrange to meet up with your mates at a caff somewhere — there were hundreds of them

'We stopped an old lady of 80 who was cycling up the motorway.' Peter Tabiner and John Mays have spent 21 years on The Road. Not much would surprise them . . . but a lot of people have tried.





End of the road for AC Cobra — the 1965 limit stopped M1 speed tests

on the old trunk roads. And if you had a breakdown or had a load shift, by the time you'd got your gear out, three or four other trucks would have stopped to help. *Esprit de corps*, in those days. Any problem, you'd be quickly sorted out and on your way. Now, on the M1, they'll run you down. No friendliness any more. Not like it was in the old trucking days.'

Like any long-time M1-user, Mick's got his fund of crazy stories. 'The one that frightened me most was the day I was overtaking another truck with 4000 gallons of spirit behind . . . and there was a Morris 1100 coming towards me in my lane. In it were three old ladies and a vicar, all

nattering away! But the daftest thing was a Mini parked in the centre lane, with the driver jacking it up to change a wheel! That's the only time I've reported anyone to the police.'

There are times when Mick harks back to the good old days before 1959, but he knows he can't put the clock back. 'With a truck, you need the motorway to get the job done quickly — even with all the hold-ups we get now'.

Hold-ups are something that Tony Homer knows something about. Responsible for maintenance and debris collecting at the Department of Transport in London, he has to keep a worn-out motorway working and doing a job that it was never designed to do in the 1950s.

'The M1 has had its first life. It was never designed for the 100,000 vehicles a day that we get now — 20% of them heavy trucks. It's not just a question of repairs — when we mend a section, we have to upgrade it at the same time. The original "spec" for the "pavement" was 20in thick; now, it's 30in. And we have to try to carry out this work without delaying traffic more than necessary.'

It's not the most rewarding of jobs. Any motorist held up by roadworks knows the anger that comes from impotence as he sits fuming in a queue, unable to turn off or even to stop by the roadside. Tony Homer gets a lot of

NEVER-ALONE RANGER

SO, BEARING in mind that animals are banned from motorways, what has this pony got to do with the opening of the M1? The key is the little girl with the AA patrol on the left, and the mum on the right.

The little girl and the mum are the same person, Ann Holtom . . . 17 years on. The youngsters are *her* children; but the pony is the same — old Ranger.

Ranger was presented by the AA in 1963 to Ann's father, farmer Peter Richards as a thank-you for the use of part of his orchard as the Association's

first motorway patrol headquarters. Richards refused any form of payment for the AA's four-year presence, but he accepted Ranger for his children.

Richards' Hermitage Farm, at Moulsoe, Buckinghamshire, was the closest off-motorway location to Newport Pagnell — the end of the original M1, then 75 miles long. Until the spring of 1963, all breakdown calls — 12,500 in the first 12 months alone — were routed through this centre. Today, the M1 is nearly 190 miles long, and calls for assistance are handled by five AA area controls en route.

letters from motorists about roadworks — particularly about roadworks that appear to be concerned with anything but work.

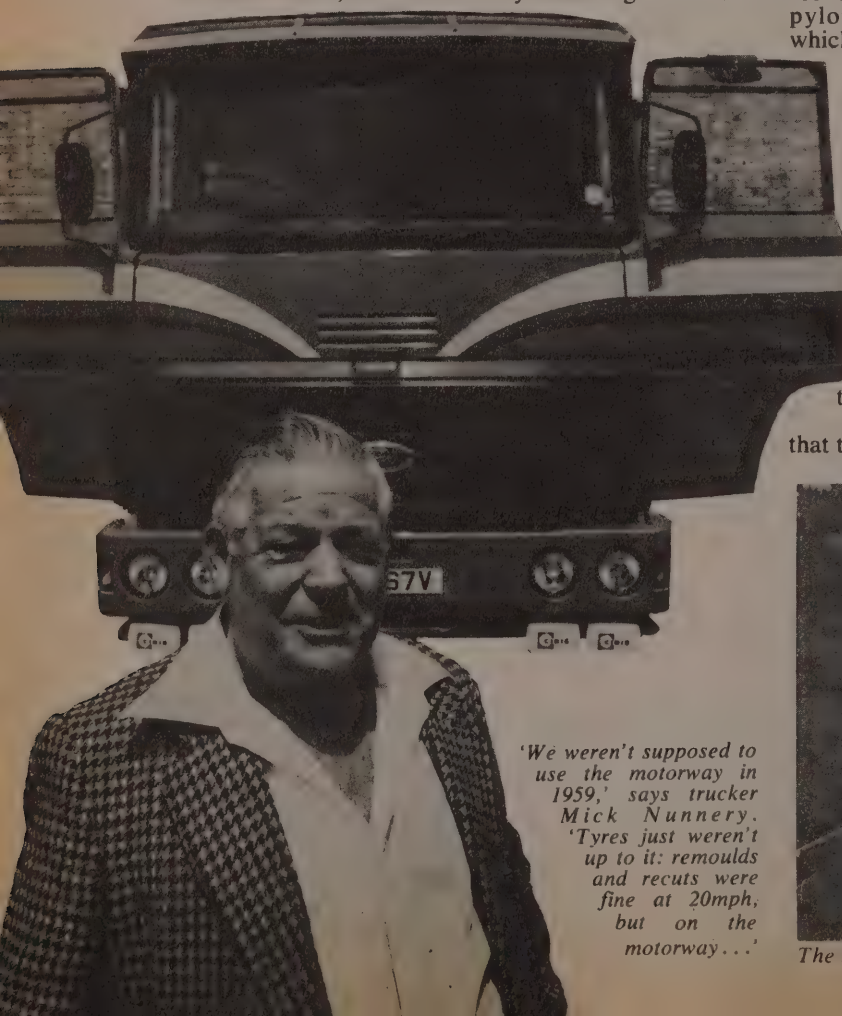
'Every motorist is a better highway engineer than we are. It's understandable, I suppose. He crawls past three miles of pyloned-off carriageway on which nothing seems to be happening, and he gets frustrated. That's always our biggest complaint from motorists. But there's always a reason. We have machines that have to be driven slowly down the carriageway to test the condition of the pavement — we have to cordon off several miles of carriageway for that. Or for the machine that cleans all the lighting down a stretch of the road.'

He's very keen to impress that they do try to work at nights

and at weekends, and that they do try to go for short working contracts to minimise those six-lane hold-ups to motorists.

Motorists don't, however, help by dropping things for his chaps to clear up. Like a complete Portakabin that was found in the outside lane. Or the tin tacks that spilled continuously from a truck to close a 39-mile section while they were swept up . . . by hand.

Love it, or hate it, we can't do without the M1. Worn out it may be, but it still keeps going — £10million will go into patching it up this year alone. The irony is that, to keep it working, the DoT is currently considering long-distance diversions to get traffic off the M1 while the 'Forth Bridge' maintenance programme is carried out. Northwards up the A5, south down the A1. For Mick Munnery and his mates, it would be just like old times!



'We weren't supposed to use the motorway in 1959,' says trucker Mick Nunnery. 'Tyres just weren't up to it: remoulds and recuts were fine at 20mph, but on the motorway...'



The road goes ever onwards . . . today, all the way to Leeds

Treble-chance winner pays dividends

The name Daihatsu is as unfamiliar to British car buyers as Datsun was a decade ago. Yet Daihatsu was the first Japanese company to launch a small car in Britain — way back in the 1960s.

That was an unsuccessful dip into British waters, but the company has now grown to BL's size and is back in Britain with the Charade. True to its name, this tiny newcomer set our testers guessing, for under its bonnet there are only three cylinders to drive the front wheels.

While newspaper headlines sang the promises of BL Cars' 100mpg car for tomorrow, we borrowed the three-pot petrol-saver that you can buy today, in its XTE trim.

How it goes

There's nothing new about three-cylinder cars: the two-

Daihatsu Charade XTE

stroke DKW design has been followed by cars as recent as the Saab 96 and the Wartburg Knight. However, they were all 'petrol' engines — oil-burning two-strokes — so the Charade's overhead-cam four-stroke unit, with three cylinders consuming 3-star fuel, and with a contra-rotating balancing shaft, is a unique package.

The theory is that 331cc of carefully designed cylinder and combustion chamber provides the optimum in four-stroke efficiency, and that three of them offer the best compromise between power increases and friction losses.

How does it work in practice? Well, our properly-run-in 993cc car

proved more than a match for all the other 11litre superminis that we have tested. Not one of them could catch the Charade — either chasing through the gears or slogging away from 30mph in fourth gear. Even in its overdrive fifth gear, this remarkable little car will accelerate as smartly as most can manage in a noisier fourth, yet this ratio is intended for economical cruising, not overtaking.

We admire the skill of Daihatsu's engineers in providing such a well-developed gear linkage, too. The Charade's does have a slightly springy action to remind one that the stick is some distance away from the gears, but otherwise it is as helpful as could be wished for, with a short, light

movement between the slots, and a sensible spring bias to the central third-fourth plane.

At first, the choice of ratios seems unusual: the three lower gears don't permit very high road speeds before the 6000rpm red line is reached on the tachometer. However, Daihatsu knew what it was doing, because fourth can take over from the ambling third to provide eager acceleration. This ratio also masks the three-cylinder engine's tendency to low-speed roughness and imbalance, especially around 2000rpm. The only time the engine does feel rough is in its first pull-away from rest — though it's surprising how quickly drivers can get used to the effect, with a little help from the soft, progressive clutch and smooth accelerator.

The XTE, which is better-equipped and trimmed than the



XG model, has an impressive list of driving features for its modest asking price: an odometer (over-reading 7½%), a rev counter, rear wash-wipe and an intermittent setting for the front wipers, in addition to the full, neat fascia layout that both Charades share.

Our only criticism of the neat instruments concerns their deep recessing, which makes them hard to read in poor daylight. Fortunately, the driving position feels right from the first time you settle into the well-designed seat, and longer acquaintance has done nothing to dispel this favourable initial impression. Some testers found the backrest adjusters stiff to work, but the effort is worth it; maximum legroom is generous for a small car, though the sliders stop too short of the pedals — odd for an Oriental car.

It's curious that only Renault and Japanese makers locate the indicator stalk on the proper — righthand — side, and the Charade's also controls the wipers. The lighting stalk, on the other side of the column, has a handy parking-lamp position, and, should you leave it set in any other position when getting out, a warning buzzer sounds.

The Charade is also distinguished by being one of the few Japanese cars with rack-and-pinion steering and a thoroughly modern suspension that, on paper, is similar to a Ford Fiesta's. Yet, in practice, it still lags behind Europe's best. It feels grippy and answers the helm well enough when travelling on billiard-table surfaces, but any unevenness sets the suspension weaving and wandering disconcertingly. This inability to follow accurately its nose never develops into anything serious, but it does take all the fun out of bend-swinging. It's also unsteady on a windy motorway.

How comfortable

Having surprised us with its willing, refined engine, the

HOW GOOD

At-a-glance

DRIVE's verdict on the Daihatsu Charade XTE, taking into consideration its rivals, its price and what kind of car it's *meant* to be.

Out of 10

PERFORMANCE

●●●●●●●●●●

FUEL ECONOMY

●●●●●●●●●●

HANDLING/STEERING

●●●●●●●●●●

COMFORT/REFINEMENT

●●●●●●●●●●

INTERIOR/LUGGAGE SPACE

●●●●●●●●●●

PASSENGER AIDS

●●●●●●●●●●

DRIVER AIDS

●●●●●●●●●●

ACCIDENT/INJURY SAFEGUARDS

●●●●●●●●●●

RUST RESISTANCE

●●●●●●●●●●

EASE/COST OF REPAIR

●●●●●●●●●●

Charade's suspension brought us down to earth with a bump; but for the good front seats, which absorb shocks and support the spine well, the ride would feel even more turbulent. The way it jars over sudden dips and ridges on the test track is even more abrupt. On British roads, the Charade doesn't jolt occupants too badly, but it dances about noticeably when only the driver is aboard, and deteriorates into a queasy wallow when fully loaded. It's too restless for our comfort.

While the rear seat is not as supportive as those up-front, its respectable legroom is comparable to a Renault 5's. The problem here is that the cushion has been set low in order to improve headroom — so spoiling the seat's shape and support. There is little side support to keep passengers secure on corners, and no

armrests are provided. There is, however, the benefit of four doors — still sufficiently unusual in small cars to be noteworthy. Back seaters have only the rear load canopy on which to store their oddments, and the boot space itself is limited, particularly in depth, when the rear seats are occupied. The boot also has a high load sill, but its carefully trimmed sides and carpeted floor (covering tools and spare wheel) make a good impression at the price. Extending the load platform to its full 42in is easy, so long as you haven't got the family with you, and it's fully carpeted.

Always an easy starter, the Charade nevertheless requires a generous dose of choke for the first mile or so to prevent it stumbling and jerking under acceleration. Once warm, all hesitancy disappears, and the light steering helps to make town motoring undemanding — though we did hear complaints about poor over-the-shoulder vision.

On the open road, with the tacho needle swinging beyond 2000rpm, all reasons for complaint fade away. The engine is always audible, but it puttters along with not a sign of those sonorous 'booms' that afflict so many four-cylinder cars at certain speeds. The faster you go, the more the Charade impresses — even allowing for the speedo's flattery (at 78mph, you're still legal). The Charade's long-legged lope up the fast lane of a motorway can be matched only by the latest Renault 5TL in its effortlessness. Cleverly, it's not all due to the overdrive fifth gear, for, even in fourth at 50mph, the Charade's lack of mechanical fuss does not send one rushing for the highest gear. Wind noise from door frames and some tyre rumble are apparent at speed, but the transmission is quiet and the only significant body rattles on our car came from the seatbelts. At high speed, some vibration was generated by the poorly balanced Dunlop SP4 radials which could be eliminated easily.

The heating and ventilation system is over-zealous and difficult to control. Gentle warmth for the footwells and a cool breeze for the face can be attained, but it takes practice. Rear passengers' toes are left out in the cold as the floor under the front seats hinders the rearward flow of air. The three-speed fan is quiet on its two lower settings, and boosts the ventilation as well as heating.

How strong

Our testers couldn't help but be impressed with the generous amount of equipment offered at so reasonable a price on so humble a car. Thoughtful details such as a coin rack and a cassette hol-

DAIHATSU CHARADE XTE

Parts/repairs (inc VAT)

clutch £45.85 (fitting 3.3hr)
exhaust £65.93 (0.4hr)
headlamp unit £5.64 (0.4hr)
front bumper £38.92 (0.5hr)
laminated windscreen £39.10 (1.2hr)

oil filter and points £7.00 (1.4hr)
major service 6000 miles 3¼hr

Insurance group 4

Warranty 12 months/unlimited mileage

Standing costs per year/12,000 miles

Loss of value N/A
Capital interest N/A
New cost inflation N/A
Total standing costs N/A
Running costs
Petrol (£1.37 per gal) £343
Insurance (av) £165
Road tax and AA sub £60+£26
Servicing/replacements £188
Total running costs = £782 (6.52p per mile)
Total cost of ownership N/A

HOW IT COMPARES

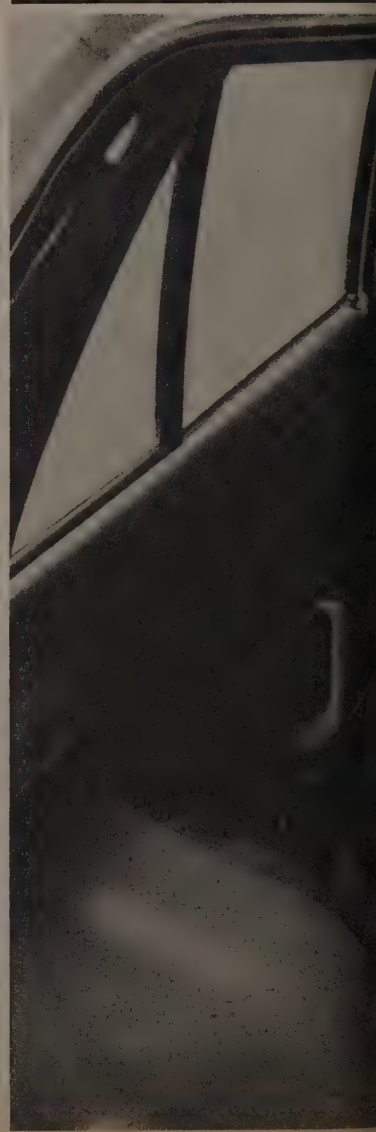
Daihatsu Charade XTE

Ford Fiesta 950L

Toyota Starlet GL

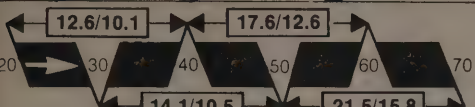
Renault 5TL

Mini 850 City



ACCELERATION times in sec

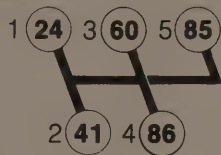
MPH	THROUGH GEARS	IN TOP GEAR	IN 4TH GEAR
0-30	4.8		
30-40	2.6	6.6	5.1
30-50	6.5	14.1	10.5
30-60	11.8	24.2	17.7
30-70	21.0	37.6	26.3



Speed-range times (sec) — top gear/4th

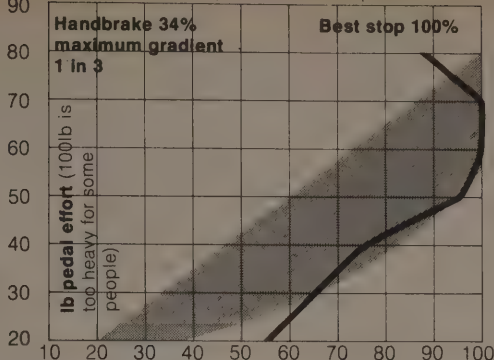
TOP SPEEDS

max engine speed
used 6500rpm
max in top 4600rpm
max in 4th gear 5700rpm
standing ¼ mile
20.6sec



ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (% G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/CIRCLE (FT)
3466	993	48	86	21.0	26.3 (4th)	100/60-70	11' 5"	40	36½	3½/33
3580	957	41	83	22.2	36.2	97/50	11' 8½"	40	39½	3½/32
3261	993	38½	85	23.2	41.5	100/65	12' 3"	39½	35	3/31
3658	1108	42½	82	22.3	37.4	94/55	11' 6"	39	36	4¼/33
2837	848	42	73	41.8	50.4	97/70	10' 0"	39¼	34½	2¾/30

BRAKES — pedal pressures and responses



% efficiency (ideal car's braking performance falls within central zone — above, too heavy, below, too light)

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)
40lb at start; 35lb in constant use; 60lb in severe use
Watersplash Immediate recovery

FUEL 3-star/94 octane min

Consumption — normal range

hard driving, heavy traffic	38½mpg
motorway — 70mph cruising	40mpg
short journeys in the suburbs	41mpg
brisk driving — 50mph cruising	49mpg
gentle driving — rural roads	58½mpg

typical mpg overall 48mpg
realistic tank range 290 miles/6gal

Consumption at steady speeds

	4th	5th
30mph	80mpg	89mpg
56mph	51mpg	55mpg
70mph	38mpg	40mpg
max mph	23½mpg	24½mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	head restraints: front? rear? No
good road 'feel'?	Yes	interior: well padded? No
brakes: powerful?	Yes	w/screen: laminated? Yes
sensible effort?	Yes	doors: childproof? Yes
fade resistant?	No	latches crashproof? Yes
belts: effective?	Yes	petrol: shielded
convenient?	No	filler? Yes
fitted in rear?	No	protected tank? Yes



der in the centre console, tinted glass and good-quality trim materials (including looped-pile carpet throughout) are what most European makers reserve for their plush models. The standard pushbutton radio is another bonus — though ours had tuning problems. There were other minor irritations, too, such as the lack of a dipping mirror, the absence of a rubber insert in the driver's carpet, and fragile seat-belt trims that were already tearing and pulling away from the central door pillars. Impressive, but not yet perfect.

Outside, chrome of indifferent quality decorated the sturdy bumpers, but the quality of the paintwork is most reassuring, with many seams sealed by pvc strip to prevent blistering. Underneath, the good work extends to careful priming and painting, supplemented by galvanised steel in particularly vulnerable areas, plastic liners under front wings, a flexible Tectyl wax coating for the centres of the floorpans, and an aluminized-steel exhaust system. But why does Daihatsu then stop short and leave box sections and door sills unprotected? The Charade is an ideal candidate for post-purchase rust-proofing to complete the otherwise reassuring protection.

Apart from grasses clinging to the good-quality seat fabric, and heel wear on the driver's carpet, the Charade is easy to keep clean. It's a delight to see the useful bag of hand tools provided, together with a tin of touch-up paint, and the jack is easy to use, too, once you have located it properly.

How safe

The Charade's cornering may be disconcerting at first, but familiarity confirms that it is not unstable. The brake pads are quite small, but they prove almost ideal in all conditions, except sustained hard use, when fade required a doubling of brake-pedal effort to achieve the same stopping power. The system also takes some time to recover, too. Its best feature is its emergency-stop performance: not only did it deliver 100% gravity braking at an ideal 60lb pedal pressure, but it proved just as efficient when you stamp even harder. The handbrake-on telltale lamp is a helpful feature, there's another to warn you if a stop-lamp has failed, and the interior roof lamp will stay illuminated if any of the doors are not shut properly.

More safety padding in the roof and behind the sun visors is needed, plus some reinforcement to the backs of the front seats. The seatbelts are excellent in fit and ease of use — until the driver changes gear, when he bangs his elbow on the centre buckle: it



couldn't be worse placed if one tried! The fuel tank is well-sited to limit petrol spillage in a major crash, and a laminated screen is standard, a good feature for so cheap a car. Even the head restraints are simplicity to adjust.

How much

When all talk of acceleration and high-speed cruising is done, the 64,000-dollar question that most small-car owners ask is 'What's its mpg?' The answer's easy. The Charade is the second-most-economical four-wheeled vehicle that we have tested — the best being the £1400-more-expensive VW Golf LD diesel. Admittedly, we haven't yet tried the Suzuki SC100X, but everything looks second-best when it comes to performance with economy. The Citroen Dyane, for example, gave us 47mpg overall, but it is yawningly slow compared to the Charade; the Fiat 126 is even slower and more cramped. The Charade's mpg lead widens to about 7mpg when compared to the Ford Fiesta 1000L and VW Polo 900L — and they are slower.

Despite its limited tank capacity and a gauge that frightens you into a filling station when there are still two gallons left, it is possible to cover nearly 300 miles without too much nail biting. The handbook declares that 2-star is acceptable, but the 'pinking' that this diet created prompts us to recommend 3-star, though all our

performance testing was done on the recommended lower grade. It's good to see the locking filler flap (released by the one key that fits everything else), and filling to the brim is easy. Underbonnet dipstick checks are equally convenient, and our car didn't use a drop of oil in 1000 miles.

Underbonnet accessibility for all routine jobs is very good, and there's one less sparkplug to clean and replace. As is often the case with Japanese cars, the service schedule is onerous and time-consuming, with an oil change every 3000 miles and a major service every 6000. This plus moderately expensive parts prices add up to high servicing costs if you don't do it yourself. Prices for some long-term replacement items are very fierce indeed — more than £100 for a radiator or a starter motor.

The final reminder that more mpg doesn't automatically mean cheap running is the Charade's group 4 insurance rating: only one company known to us rates it as group 3. The extra insurance premium alone will swallow the Charade's fuel-cost advantage over such group-1 cars as the Austin-Morris Mini 1000 and Ford Fiesta 1000.

The handbook's pidgin English gives little information about maintenance, so the absence of independent literature could cause problems for DIY services. Dealers number less than 100.

Verdict

The Charade XTE played no games with us. It delivered fuel-consumption figures far beyond our expectations, and startled us with its lusty acceleration and quiet high-speed cruising. In fact, it's such a game little package that even sceptical roadtesters were encouraged to forgive the Charade's list of less-endearing attributes.

The indifferent suspension is compensated for by better-than-average front seats, and the interior is so well-trimmed and equipped that it's easy to overlook the dubious rear-seat support and poor luggage room.

If there is any doubt about this engaging personality's future, it is that petrol prices may not yet be sufficiently high to make motorists queue outside Daihatsu dealerships. But, if you're a petrol-price pessimist, the Charade will entertain you cheaply.

ENGINE

Type and size front-mounted 3-in-transverse-line, water-cooled; 76mm bore x 75mm stroke=993cc; 4 main bearings with iron block/alloy head
Compression ratio 9.0:1

Valve gear single overhead camshaft (belt driven) actuating rockers

Fuel system one Aisan twin-venturi carburettor (manual choke) fed by mechanical pump from 7½gal tank — no reserve

Max power (DIN-net) 50bhp at 5500rpm

Max torque (DIN-net) 53lb ft at 3000rpm

TRANSMISSION

Clutch 6¼in diaphragm spring single dry plate, cable operated; load/travel: 20lb/6¼in

Gearbox 5-speed (all synchromesh) and reverse. Ratios: first 3.67:1, second 2.15:1, third 1.46:1, fourth 0.97:1, top 0.80:1 and reverse 3.53:1

Final drive 4.28:1 to front wheels
Mph per 1000rpm 18.4 in top gear; 15.1 in fourth gear

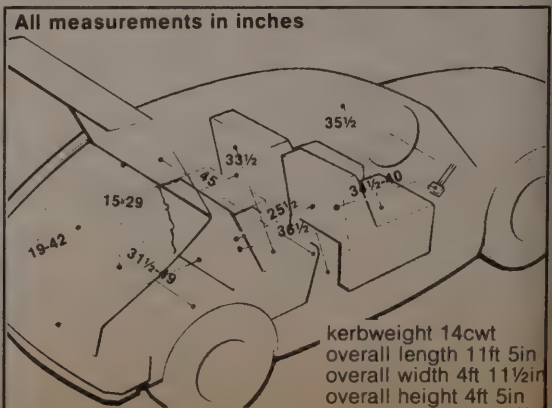
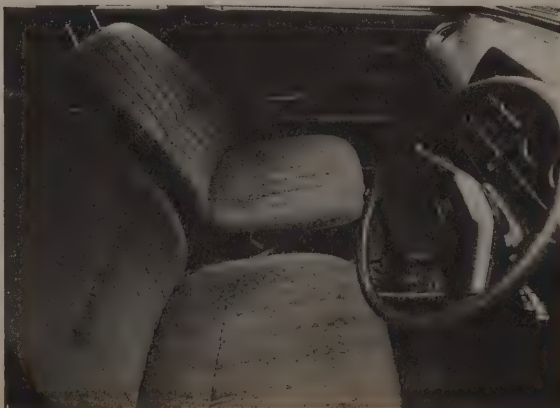
CHASSIS

Suspension — front: independent MacPherson struts with integral coil springs. Rear: dead beam axle with four trailing links, coil springs and a Panhard rod. Dampers: telescopic all round

Steering rack-and-pinion, with 3½ turns between full locks. Turning circles average 33ft between kerbs, with 58ft in response to one turn of wheel

Wheels 4J (steel) with 155SR12 steel-braced radial-ply tyres (Dunlop SP4 on test car)

Brakes dual line hydraulic — discs front, drums rear with vacuum servo; low fluid level and handbrake on telltales



Motor insurance.

Before the cheque

Is your present motor insurance giving you all the cover you want... dependably? All the discounts you could qualify for? At the best value on the market?

It could pay you to find out now... before your next premium comes due. You can obtain a check on your premium and cover by using the AA's computer service. The service is free and sifts through a whole range of policies arranged with leading insurance companies and at Lloyds, to select the quotation that suits you best. And you can be sure with AA buying power and expertise, you can have the best cover at minimum cost.

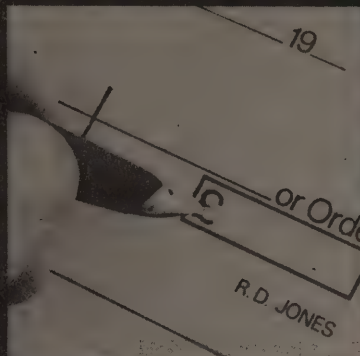
Check some of the discounts you might be eligible for... A 20% discount if driving is restricted to husband and wife. A 10% discount if you are over 60, or if your car is over 6 years old. A no-claims discount up to 65% perhaps... or substantial occupational savings. You can pay by instalments too... in fact as a motoring organisation we've tried to plan insurance to suit you in every way. So put that pen to good use... and freepost for the AA quote now.

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Please use BLOCK CAPITALS initials surname

Mr/Mrs/Miss :
Membership No. (if applicable) :
Address :
Post Code :
Telephone No. Day :
Evening :
Occupation(s) : Employer's Business :
FOR OFFICE USE ONLY

About your car

Make and model of car including details of modifications

Reg. No. :
Engine cc : Year of manufacture 19 : Value £ :

When do you use your car? *Please delete the word that does not apply.

In addition to private use, will the car be used for

- (a) Driving to work on three or more days a week? NO/YES*
If YES, name city, town or suburb where you work :
(b) Business use by yourself only? NO/YES*
(c) Business use by another person? NO/YES*
(d) Commercial travelling? NO/YES*

What cover do you want?

Please tick type of cover you require:

Comprehensive ☐ Third Party Fire & Theft ☐ Third Party Only ☐

If you wish to reduce the premium by bearing the cost of any damage to your car indicate (✓) the appropriate amount:

up to £25 ☐ up to £50 ☐ up to £100 ☐

Please indicate (✓) who will drive the vehicle:

- (a) Yourself only ☐
(b) Yourself and wife/husband only ☐
(c) Yourself and one named driver only ☐
(d) Any licensed driver ☐
In the case of (b) and (c) please give details of other driver or in the case of (d) of youngest known driver.
Age : yrs.
Length full UK Driving Licence held : yrs.

When would you like cover to start? day month year

(Indicate when your present insurance ends).

- On that date :
(a) How old will you be? : yrs.
(b) How long will you have held a full UK driving licence? : yrs.
(c) Have you been resident in the UK for 3 or more years? NO/YES*
(d) How many years No Claims Discount will you be claiming in your own right? : yrs.

Have you or any other person who will drive the car:

- (a) Been convicted or have pending prosecutions for a motoring offence? NO/YES*
(b) Been involved in any accident or loss regardless of blame in the last five years? NO/YES*
(c) Suffer from any physical disability or infirmity e.g. heart disease etc? NO/YES*

If you answered YES to (a), (b), or (c), please give details on a separate sheet.

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**FINAL
REPORT**

FORD FIESTA 1100L

**He just keep
rollin' along**

RENAULT 5GTL

French revolutions

DEVONSHIRE TEACHER J R 'Robbie' Robinson is a motoring fanatic who admits he hasn't the confidence to remove a sparkplug. But Robbie did have the good sense to draw up a six-point plan for choosing his new car. He needed: a hatchback; small overall size; the possibility of 50mpg; a low-compression engine; insurance of group 3 or better; and a model promising good future trade-in value. This scheme reduced his 'possibilities' to three: a Ford Fiesta 1100L, a Volkswagen Polo N and a Renault 5GTL. In Robbie's scoring, the Renault won on points, and duly joined our Long-Term-Test Club for a year's appraisal.

Robbie, 49, left the Army in 1972 and is now responsible for all

**FIRST
REPORT**



IT'S HARD to dampen the spirits of Peter and June Rivers. A year ago, this Fleet, Hampshire, couple were determined to buy a Ford Fiesta 1100L — a move that earned their enrolment into our Long-Term-Test Club. Here they take their leave from the Club after a low-mileage but eventful first year...

The Fiesta was to be the Rivers' first new car. 'You can imagine how excited we were,' said pipemaker Peter, 31. 'I said when it was launched that it was the car for us — it's economical and it looks good.'

A confirmed Ford fan, Peter never considered the possibility of a rival make. He went straight to Vick Brothers, of Farnborough, Hampshire, to place his order, and was told that he could have his car some time in July 1979. The salesman also agreed to pay the Rivers £1000 for their Ford Cortina 1600L. June asked if she should arrange a banker's draft for delivery day, and was assured that it wouldn't be necessary.

By mid-August their loyalty was being stretched a little. They had been told that their car had not yet been built, and would not be imported from Ford's Spanish factory until October. To rub salt in the wound, on the Friday evening, when they went to collect the car, they were told that a banker's draft would now be necessary and that the Fiesta's price had gone up while they had been waiting. Meanwhile, government had raised the VAT due on it; and their Cortina had depreciated and was now worth only £900...

Peter and June not only agreed to all these increases but also spent £69 on a rust-protection treatment by Vick Brothers, £10 on a passenger-door mirror and no less than £217 on a Ford radio/cassette player.

Check 1

As far as AA engineer Charles Stubbs was concerned, their wait had not been worthwhile. He expressed disappointment with Ford's poor paintwork — heavy

paint runs on the tailgate and rear panel, and a rough area of paint on the offside wing and door — and with the quality of Vick Brothers' pre-delivery inspection, which had allowed the car out still coated with some of its protective wax. The proprietary rust-prevention treatment had been applied only to those parts of the car that could easily be seen, for our fibre-optic probe showed little evidence of protection where it really counted. Said Stubbs: 'The operator has been rather casual in applying the compound — it's sprayed on the exhaust pipe and silencer, while other areas have been missed altogether.'

Check 2, at 1361 miles

Two months' later, on 14 December, the Rivers car had done little travelling. Peter was, however, quite happy with it, and had decided to do nothing about its poor paintwork as rectification could have made it worse... AA engineer Bernard Tasker agreed, reluctantly, that the Rivers had

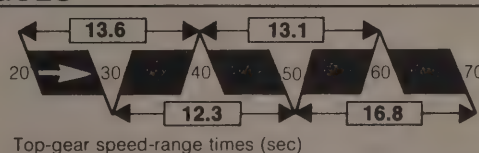
probably made the right decision — a sad reflection on the trade's reputation. Underbody protection had been applied to the areas previously missed, but all was not well under the bonnet. Tasker faulted the exhaust's carbon-monoxide emission level and the dwell angle and timing at idle: it all added up to a tendency to mis-fire under load. On the rolling road, Tasker found the usual optimism associated with Ford speedometers: at 70mph, the speedo registered 76mph, but this was deemed acceptable.

A brake test on the AA's sophisticated equipment revealed no significant problems, but the handbrake's performance was marginally below the legal requirement. Both headlamps were now incorrectly aligned too high and too far to the right, but Tasker corrected them himself.

Under the hoist, Tasker noted slight oil leaks around the Fiesta's engine and gearbox. 'At this stage, just keep an eye on them,' he advised. June Rivers won-

FORD FIESTA 1100L — HOW IT GOES

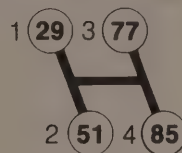
MPH	ACCELERATION THROUGH GEARS	times in sec
0-30		4.7
30-40		2.7
30-50		6.2
30-60		11.2
30-70		18.2



Top-gear speed-range times (sec)

TOP SPEEDS

max engine speed used 6600rpm; max in top 5250rpm; standing ¼ mile 20.5sec



FUEL 4-star/97 octane min

Consumption — normal range

short journeys in the suburbs	30¼mpg
motorway — 70mph cruising	34¾mpg
brisk driving, mixed roads	37½mpg
gentle driving — rural roads	45¼mpg
hard driving, heavy traffic	32mpg

Typical mpg overall 38mpg
Realistic tank range 235 miles/6¼gal

Consumption at steady speeds

30mph	57¼mpg
56mph	42¾mpg
70mph	34¾mpg
max mph	23mpg

adult education and youth work in the area around Chulmleigh, Devon. 'I teach sports and sex' — he told us — 'only we prefer to call the latter "adult education for personal relationships".'

'Before I buy a car, I try to be totally objective and put all relevant facts down on paper. I have a test drive in every new car I can find, too, and this time I even went so far as to borrow a Citroen GS for a weekend.'

Within 20min of trading-in his Fiesta 1100L, with Henleys, of Exeter, Robbie delivered his new Renault into the hands of Exeter-based AA engineer Jack Smith. As Smith went to work, Robbie continued: 'I got £2265 for my old Fiesta — it was exactly two years old and had covered 29,849 miles. I didn't get any sort of discount on the Renault, so, with all the extras, the bill came to £4089.63. A radio/cassette player head-restraints and mudflaps came to another £200.'

'This is my first Renault; and my initial impression is that the clutch action is sudden, the brakes can grab fiercely.'

'I am an A1 economy motorist

— and I don't just mean economy in petrol; I mean economy in car ownership. It all started when I read about Mobil's economy runs, 15 years ago. I took the subject up seriously, with my first new Ford, in 1970. It was a Cortina 1300, and over 65,000 miles it managed 38.8mpg. I am a gentle driver, cruising between 40mph and 50mph. I do drive at 70mph on the motorway, but that is probably only 1% of my driving. Most of my driving is usually done down narrow country lanes — that's why I need a small car. I also prefer slow-running long-stroke engines, and high torque at

low revs. As I don't use more than 5000rpm, I don't need a fancy overhead cam.'

We told Robbie that, when it comes to economy calculations, he shouldn't always believe what the odometer says. Smith then pointed out that the factory-applied underbody protection had been sprayed on to the exhaust, where it would burn off rather noisily, and it also needed cleaning off some body panels.

'Paintwork might be classed as factory-standard,' said Smith, 'but there are a number of unsightly paint nodules' which could lead to rusting. We shall

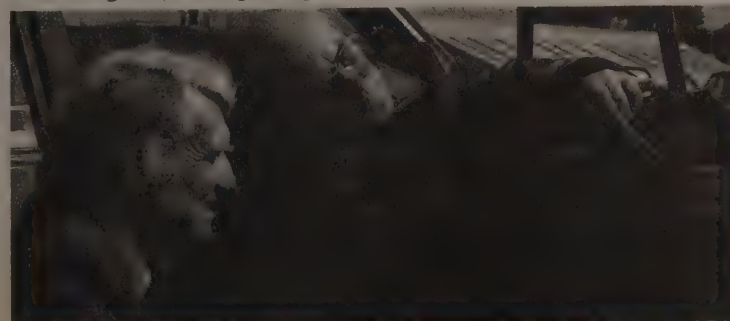
see. On the driver's door, there are paint defects caused by contamination; oh, and your front bumper has already been bumped and left with a sharp edge.'

Before we could stop him Robbie reached out and proved Smith right by cutting his thumb. Smith left him nursing the wound while he conducted a road test. The result? 'No criticism at all at this stage. Its handling is beautiful and, for a new car, its torque at low revs is good.'


Robbie was in high spirits: 'I shall definitely go back to the dealer and have a word about the bumper. As for the little paint drips, well, I don't think I'll make an issue out of them.'

We waved goodbye and went our various ways — some slower than others. As Robbie later told us: 'My brakes suddenly started to bind. I managed to get three miles towards home before I decided to call into Henleys to get the brakes sorted out — by then I was reduced to 15mph. I drove like that for two miles, and the fault suddenly cleared itself.'

See you in two months' time, Robbie — all being well.



Not all the same under the skin — Smith points out paint faults to Robbie

 MAKE AND MODEL	Road Test Report No	Date	DATA AT TEST DATE					insurance group	MODEL YEAR Average secondhand price guide							
			engine cc	mean top mph	accelera- tion 0-60 in sec	overall mpg	1980		1979	1978	1977	1976	1975	1974	1973	
Alfa Romeo Alfaisud SE/1.3 Super 4-dr	354	1974	1186	92	16.1	32.5	5	3295	2725*	2230	1685	1365	1090	870	—	—
Giulietta 1.6	D25	1979	1570	104	12.2	29.75	6	4260	3490	—	—	—	—	—	—	—
Audi 80GLS	D18	1979	1588	103	11.9	34.75	6	4955	4060*	3295	2625*	2080	1610	1215	870	—
100LS/L5S	418	1977	1984	108	11.9	29.0	7	—	—	3295	2675*	1960	1610	1315	1090	—
Austin-Morris Mini 850	R 8013	1980	848	73	23.6	42.5	1	2395	2090	1780	1530	1305	1100	935	785	—
Mini Clubman	410	1977	1098	82	18.2	40.5	1/2	2805	2435	2090	1795	1525	1290	1090	925	—
Allegro 1300 (1.3 4-door)	377	1976	1275	85	19.0	37.0	2	3065*	2675	2275	1945	1635*	1370	1150	945	—
Allegro 1500L estate	D9	1979	1485	90	16.6	34.25	3	3450*	2980	2515	2130	1780*	1480	—	—	—
Maxi 1750 HL (HLS)	R 805	1980	1748	94	13.1	30.5	4	—	3130*	2655	2255	1905	1585	1320	1080	—
Princess 1700HL (1800 HLS)	397	1976	1798	96	14.2	29.75	3	4185	3270	2975*	2230	1810	1440	—	—	—
Princess 2 2200HL (HLS)	D11	1978	2227	103	13.8	27.25	6	4730*	3345	3020*	2180	1710	1290	—	—	—
Marina 1300 (1.3) 4-door	392	1976	1275	85	18.2	33.0	2	3105*	2705*	2310	1965	1655*	1405	1170	975	—
Marina 1700 (1.8) estate	431	1977	1798	93	14.8	30.0	3	3680*	3180*	2705	2310	1945	1625	1360	1110	—
BMW 316	Ri 149	1977	1573	101	12.9	27.5	6	—	4580	3815	3170	2625	—	—	—	—
520	D11	1978	1990	109	13.7	27.25	7	7230	5965	4905	4010	3270	2650	2130	1660	—
Citroen 2CV6	Ri 118	1975	602	66	37.2	44.0	1	2050	1695	1420	1185	995	840	—	—	—
Dyane 6	D1	1979	602	68	26.9	47.0	1	2230	1770	1480	1240	1035	875	725	605	—
GS 1220 Club estate	D8	1979	1222	90	17.0	31.75	3/4	3420	2900	2380	1960	1585	1290	1040	820	—
CX Reflex/2000	416	1977	1985	107	12.7	29.25	6/7	4955	3320	2725	2230	1810	1465	—	—	—
CX2400 Super estate	416	1977	2347	102	12.7	25.25	6/7	5495	4460	3565	2850	—	—	—	—	—
Colt Lancer 1400GL(X) 4-door	371	1975	1439	94	12.9	34.0	5	3935	2965	2465	2040	1665	1320	—	—	—
Sigma 2000GLX	432	1977	1995	95	14.1	27.25	6	4355	3745	3120	2610	—	—	—	—	—
Datsun Cherry 4-door	D3	1978	988	83	20.4	38.5	3	2765	2510*	1955	1650	1515*	1225	1025	850	—
Sunny 1200GLS 4-door	D20	1979	1171	86	18.8	37.0	3/4	3000	2735*	2200	1865	1565	1300	1070	—	—
Violet 140J	Ri 132M	1975	1428	94	15.5	32.0	4	3145	2775	2325	1950	1615	1320	1070	—	—
Laurel Six	D11	1978	1998	96	13.7	25.0	6	4580	3965	3295*	2095	1755	1465	—	—	—
Fiat 126	D1	1979	652	68	37.2	47.0	1	2065	1775	1505*	1290*	1010	850	710	585	—
127 1050CL (3-door Special)	429	1977	1049	84	16.4	39.75	3	2645	2255*	1895*	1745*	1345	1110	920	745	—
128 1100 4-door	402	1976	1116	83	17.4	38.0	3	—	—	1825	1550*	1310	1085	910	745	—
131 1600 estate	412	1977	1585	96	14.2	32.75	5	3815	3230	2965*	2260	2070*	1520	—	—	—
132 2000 (1800)	D12	1978	1995	103	10.7	29.25	6	4535	3710	3115*	2015*	1660	1350	1220*	845	—
Ford Fiesta 1000L	417	1978	957	83	18.4	41.0	1	2980	2715	2330	2080	—	—	—	—	—
Fiesta 1300S	Ri 181	1979	1298	93	13.1	38.0	3	3505	3190	2735	—	—	—	—	—	—
Escort 1300 Mk1/2	D4	1978	1297	85	17.1	33.0	2	2885	2555	2180	1870	1585	1340*	1115	945	—
Escort 1600 Ghia	D4	1979	1598	96	12.7	33.75	5	3715	3260	2785	2380	2030	1715	—	—	—
Cortina 1600L	404	1976	1593	89	15.3	27.0	3	3615*	3200	2745	2350*	1670	1420	1205	1020	—
Cortina 2000 estate	413	1977	1993	96	12.7	27.25	5	4675*	4100	3515	3030*	2100	1795	1525	1300	—
Capri 2000S (GT)	Ri 166M	1978	1993	109	10.9	30.25	4/5	4310	3780	3200*	2715	2280*	1900	1575*	1280	—
Granada 2.8 estate auto	D8	1978	2792	103	11.4	21.0	6	—	5470	4410*	2675	2380	1860	1440	1015	—
Honda Civic	Ri 155	1978	1238	83	15.5	36.5	4	2675	2540	2160	1925*	1565	1310	1090	—	—
Accord 3-door auto	420	1977	1600	89	14.7	32.0	5/6	—	3885	3290	2795	—	—	—	—	—
Jaguar-Daimler XJ6/4.2 auto	R 8024	1980	4235	125+	10.3	19.0	7/8	12625	10990*	7430	5495	4410	3490	2675*	2130	—
XJS auto	394	1976	5343	150	7.7	15.25	7	14555	11835	9555	7675	6090	—	—	—	—
Lada 1200	Ri 175	1979	1198	84	17.4	28.5	3	2115	1850	1555	1305	1075	890	725	—	—
1500/1600	Ri 173	1979	1570	92	14.8	29.25	4	3065	2725*	1955	1635	1360	—	—	—	—
Lancia Beta 2000 (1800)	Ri 171M	1978	1995	107	11.2	26.5	6/7	3965	3220	2575	2055	1490*	1190	920	—	—
MGB GT	D13	1979	1798	101	12.4	27.0	6	4905	4310	3765	3170	2650*	2230	1835	1535	—
Mazda 323 3-door (New 1300)	D4	1978	1272	89	15.9	36.5	4	2925	2490	2110	1795*	1330	1105	925	—	—
Mercedes-Benz 280E auto	D11	1979	2746	120	9.4	21.0	7/SR	11835	10100	8370	6935*	4555	3790	3120	2600	—
Opel Kadett L estate	338	1974	1196	84	16.7	32.0	3	—	2915	2470	2280	1745	1450	1190	965	—

S/R=special rates * =revised specification or designation

LONG-TERM-TEST CLUB

dered if fitting electronic ignition would be worthwhile as it had improved the starting of her father's Saab, but Tasker advised her to leave well alone.

Check 3, at 2367 miles

February 1980 found the Rivers spirits at low ebb. A Christmas-holiday rainstorm had flooded their road and their car. Peter and June had spent a day mopping up in the Fiesta.

'Did you take the carpets out?' asked Tasker. 'The surplus water would have to go somewhere, and that's where most of it is bound to go.' To prove his point he loosened the carpet's fastenings and reached underneath: the soundproofing was soaking. Peter and June were taken aback, and realised that much of the Fiesta's interior would need stripping out — seats and all. They said they would book it into a garage, but Tasker quickly advised them to think again as the job would probably take a whole day at up to £10 an hour.

Apart from its rising damp, the car's oil seepages were no worse. The handbrake still required

adjustment and, on the road, there was a slight steering vibration at 60-65mph and that familiar misfire under load. Apart from the engine adjustments already recommended, Tasker suggested that the occasional brisk drive might help. Peter admitted he rarely exceeded 40mph on his trips to and from work...

Check 4, at 3820 miles

Mid-May, and the River's had still not aired out their flooded car. Engineer Tasker decided to see if some polish and elbow grease could improve the poorer areas of paintwork — which it did. He noted that the engine's oil level was low, that its tappets were noisy, and that there was a slight leak from the nearside-front suspension strut. 'Time for a service,' said Tasker.

The road-test again revealed a severe misfire under load, plus a tendency to 'pinking' and some excess travel of the brake pedal. Tasker advised Peter to push the Fiesta hard through the gears twice a week — or risk an expensive bill for a decoke. Peter, however, was unperturbed: 'When we

bought our car, everyone said that buying new was a recipe for trouble — but they were wrong.'

Check 6, at 6086 miles

At the end of July 1980 the Fiesta had just passed its first service. Peter and June had at last dried the car properly — a full day's work — and they also paid a door-to-door salesman £8 to have its windows etched with the registration number in the hope of deterring thieves.

Tasker noted that the tappets were extremely noisy — surprising after a service — but Peter claimed responsibility: he was 'handy with a feeler gauge...'. Concluded Tasker: 'Any replacement of parts will be a reflection more of the car's limited use than of Ford's shortcomings.'

The Riverses, though, are content: 'We now have a useful knowledge of our car,' says June; 'your man taught us a lot.'

'Peter now does easy things, like tappets'... but we'll draw a veil over that.

They plan to keep the car six years: perhaps we'll be back in 1985.

FLEET REVIEW

CYK 111V Stewart Mann, an environmental-affairs officer based in Halesowen, W Midlands, has driven 10 staff cars in 20 years, but he rates his Fiesta the best yet. In his year, Mann covered 21,000 miles with no breakdowns at all, and he reckoned that his average fuel consumption worked out at 40.6mpg. 'The item which has annoyed me most has been the seatbelt — it twists in the guide — but I always wear it. My Fiesta is also noisy at 60-70mph, and I have to cover valuables with a car rug — unlike some Continental hatchbacks, the Fiesta doesn't have a parcels shelf, so there's no other way to hide them.'

BHX 806T Tony Poulton, a London-based AA traffic officer, did 22,000 miles in his first year. Poulton rates his Fiesta as being more enjoyable than his Escort Popular, and it suffered no breakdowns at all. Third gear was difficult to engage at first but it eased with use, and there were several

MAKE AND MODEL	Road Test Report No	Date	DATA AT TEST DATE				insurance group	MODEL YEAR Average secondhand price guide							
			engine cc	mean top mph	acceleration 0-60 in sec	overall mpg		1980	1979	1978	1977	1976	1975	1974	1973
Manta	407	1977	1897	103	11.0	26.5	4	4680	4085	3740*	2850	2380*	1935	1560	1215
Rekord	D12	1978	1979	104	12.2	28.0	6	5000	4210	3445*	2105	1760	1465	1190	970
Peugeot 104GL	406	1977	954	83	19.9	36.0	3	2875	2405	2005	1685*	1390	1165	970	795
305 (304)	D9	1978	1290	88	15.8	33.75	4	3470	3045	2575*	1860*	1560	1290	1065	870
504 (1800HL)	RI 174M	1979	1796	94	14.6	28.0	5	3965	3320*	2725	2230	1810	—	—	—
504Ti	358	1974	1971	104	11.1	26.25	6	—	3915	3245	2675	2205	1810	1465	—
504 Family estate	RI 159	1978	1971	98	13.3	26.5	4	5450	4555	3815	3195	2675	2230	1860	1535
604SL	391	1976	2664	112	11.6	23.25	7	6040	4955	3915	3095	2380	—	—	—
Reliant Scimitar GTE	303	1973	2994	118	9.1	21.25	7	—	5945*	4905	4060	3370	2750	2230	1810
Renault 4TL/GTL	R 8017	1980	1108	70	27.1	41.5	S/R	2800*	2280	1915	1605	1355	1140	955	795
5TL	D3	1978	956	81	19.3	39.5	5	2975*	2575	2155	1785	1490	1240	1015	845
5TS	370	1975	1289	93	13.3	36.25	4	3490	2975	2480	2080	1735	1440	—	—
12TL estate	374	1976	1289	87	16.6	31.5	3	3665	3120	2600	2180	1810*	1490	1240	1015*
14TL	414/RI 189	1977	1218	89	14.8	36.5	4	3320	2800	2380	1985	—	—	—	—
16TL	291	1972	1565	93	15.1	29.5	4	—	2925	2455	2030	1685	1415	1165	970
30TS	RI 134M	1976	2664	113	10.3	23.75	3/4	5450	4530	3690	2995	2430	—	—	—
Rover-Triumph Rover 3500	428	1977	3528	119	10.4	24.5	6	7030	5820	4755	3865	3120*	2105	1685	1365
Range Rover	D2	1979	3528	94	15.7	16.25	5	10150	8790	7600	6635	5820	5150	4505	3790
Triumph Dolomite 1300/Toledo	345/RI 150	1977	1296	83	19.8	33.0	2/3	3270	2855	2410	2025	1685*	1365	1130	935
Dolomite Sprint	332	1974	1998	113	9.3	30.0	6	4695	3565	2985	2485	2040	1655*	1320	1020
Triumph 2000 Mk2	219	1970	1998	95	15.0	26.0	4	—	—	—	2355	1960	1685*	1340	1115
Triumph Spitfire 1500 (1300)	376	1976	1493	97	12.5	35.25	5	3565	3095	2600	2180	1835	1535*	1290	1090
Triumph TR7	401	1976	1998	108	10.2	28.75	6	4705	3765	2950	2305	1885	—	—	—
Triumph Stag	273	1972	2997	118	10.2	22.5	S/R	—	—	—	4830	3965	3270	2650	2130
Saab 99GL	419	1977	1985	101	12.7	30.0	6	4880	4060	3345	2775	2280	1860	1510	1215
Skoda S110/Estelle 120L	D1/RI 169	1979	1174	86	17.9	33.0	3	2175	1880	1600	1365*	850	725	615	520
Talbot (Chrysler) Simca 1100GLS	298	1973	1118	85	16.5	33.25	3	—	2160	1845*	1565*	1325	1120	940	775
Avenger 1.3 (1250)	D9	1978	1295	87	16.6	33.5	2	2775	2400	2040*	1730	1460	1220	1010*	815
Sunbeam 1.6S	D6	1978	1600	95	13.9	33.5	3	3795	3330	2825	—	—	—	—	—
Alpine GLS	381	1976	1442	97	14.3	32.0	5	3990	3390	2870	2430	2025	—	—	—
Toyota Starlet (1000)	D3	1979	993	85	18.7	38.5	3	2845	2645	2345*	1610	1360	1140	—	—
Corolla 30	399	1976	1166	87	15.9	33.5	4	—	2635	2245	2070	1595	1335	—	—
Carina 1600 auto	D10	1978	1588	92	15.1	27.5	5	3610	3175	2655	2205	1975*	1440	1180	945
Corona GL	RI 185	1979	1770	98	14.2	31.75	6	4480	4035*	—	1915	1600	1325	1080	865
Vauxhall Chevette GL(L) 3-door	D3	1979	1256	89	16.2	37.0	2	3300	2895	2480	2125	1895*	1535	—	—
Viva 2-door	378	1976	1256	87	17.0	34.5	2	—	2290	1955	1645	1385*	1160	965	785
Cavalier 1600L 4-door	382	1976	1584	96	12.6	29.5	4	3740	3240	2735	2310	1935	—	—	—
Cavalier (2000) 1.9GL auto	RI 152	1977	1897	97	12.2	27.0	4	—	3980	3330	2795	2300	—	—	—
Cavalier 2000GLS Sports hatch	RI 184	1979	1979	109	11.2	29.5	4	5045	4350*	3580*	3030	2445	—	—	—
Victor VX1800	390	1976	1759	98	14.4	28.0	3	—	—	2380	2030	1760*	1340	1065	820
VX2300 estate	RI 147	1976	2279	101	12.2	26.5	4/5	—	—	2650	2230	1935*	1465	1165	895
VW Beetle 1200	353	1974	1192	72	27.5	38.5	2	—	—	—	2485	2030	1755	1505	1300
Polo L900	408	1977	895	81	19.0	39.5	3/4	3170	2895	2480	2125	1820	—	—	—
Derby GLS1300	RI 168	1978	1272	94	13.0	36.0	4	3580	3260	2790	—	—	—	—	—
Golf L1100	411	1977	1093	87	16.8	34.5	4	3645	3310	2835	2430	2070	1750	—	—
Scirocco GLS (TS)	D7	1979	1588	104	10.6	33.75	6	5100	4580	3865	3270*	2725	2280	—	—
Passat LS1600	388/RI 165	1976	1588	97	13.1	33.0	6	4460	3985	3270*	2690	2160	1695*	1290	—
Volvo 343DL auto	D10	1978	1397	88	17.0	30.5	5	—	3515	2925	2480	—	—	—	—
244 (144GL)	426	1977	2127	102	12.0	27.5	7	7080	6040	5075	4260	3615	3020*	2305	1885
245 (145DL) estate	368	1975	2127	96	13.8	24.0	5	6340	5495	4655	3940	3345	2850*	2480	2055

Not content with following the Rivers car, DRIVE also kept track of five Fiestas being run by AA staff . . .

little faults that Poulton was able to cure himself.

During last winter, he discovered that the heater couldn't cope with the coldest days — indeed, there was little variation between hot and cold settings. At 7000 miles, water started to enter the car on the nearside, via door seals, and these were replaced under warranty. His Fiesta has had three 6000-mile services to date, and no serious faults have been discovered other than an oil

leak on to the rear-offside brake lining. Petrol consumption has been only in the high 30s — a reflection of the large number of urban miles that Tony drives.

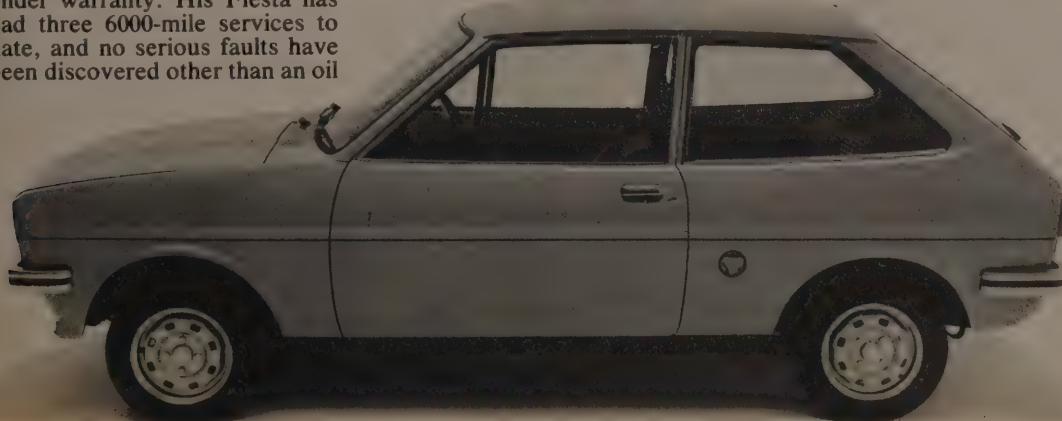
CVK 113V Ted May is a Basingstoke, Hampshire-based advertisement representative: 'I have been pleased with my Fiesta's

reliability, and its general comfort is good, considering that it is such a small car. The roadholding is excellent and it's easy to park. My car cruises well at 60-70mph and doesn't seem to use much oil. However, it has been very heavy on front tyres, which needed replacing at 13,000 miles. I am not pleased with everything, though:

the paintwork has rust spots, and consumption is an unremarkable 37mpg overall.'

BHX 768T Tony Walton, an environmental-affairs inspector based in London, drove 21,000 miles in his year, at an average of 36½mpg — which was enough to please him. 'Its roadholding and acceleration make the Ford Escort feel like a tank by comparison,' he enthused. 'My Fiesta has given me no trouble, though I took some time to get accustomed to the driving position: I couldn't make my right foot comfortable when cruising. Now, the only source of irritation is the seatbelt, which always seems reluctant to move freely.'

CYK 112V Maurice Adlam, a highways inspector covering the West and Wales, was pleased to report 20,000 miles of incident-free motoring. His fuel consumption fluctuated between a worst of 34½mpg and a best of 40½mpg.



SHOWSTOPPER

Austin mini Metro.



AFTER MANY YEARS of rumour, speculation and intrigue, here is the *real* super-Mini the Austin mini Metro — now at the Show and your local BL dealer. Measuring 14in longer than the 21-year-old Mini, it still occupies considerably less kerb space than most of its rivals.

Small on the outside it may be, but there's enough room inside to match the best in its class, with space for four adults and their luggage. Helpful features are front seats that slide forward as

they tilt to give easy access to the rear, and the well-planned stowage space for oddments.

Most important of all, there are full-length tailgates on all five models, and all but the cheapest have a folding rear-seat backrest that splits into $\frac{1}{3}$ and $\frac{2}{3}$ portions to give the Metro the most versatile luggage area in its class. The range of fixtures and fittings

rank among the best in this market, with an impressive list of options ranging from sunroofs to trip computers.

There are two sizes of engine, 998cc and 1275cc, the smaller available in three different states of tune. DRIVE has sampled the economy-version 1.0 HLE

and the top-of-the-range 1.3 HLS,

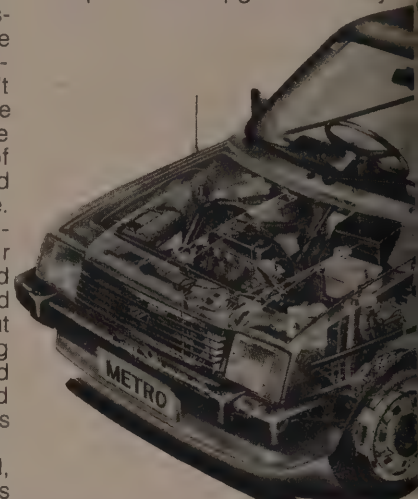
and in this brief comparison it was the smaller engine that impressed us the most. Obviously, it didn't have the punch of

the 1.3, but it worked more sweetly and with less noise. Both cars are impressive high-speed cruisers, though their low-speed performance around town is bettered by the Ford Fiesta and Volkswagen Polo. But the Metro beats both of these big rivals with the relaxed and absorbent quality of its ride, and its handling and roadholding is nimble and safe.

Visibility is excellent all round, and the driving seat gave us

big-car comfort. Taller drivers might want more legroom, however, and we were disappointed to find the steering wheel canted upwards at an awkward angle, Mini style. Pedal pads are on the small side, but the minor controls are thoughtfully planned.

Running costs are a big small-car consideration, and the Metro promises cheap motoring with its servicing times cut to less than three hours a year. DRIVE's brief pre-launch fuel consumption test of a Metro 1.0 HLE recorded 83mpg at a constant 30mph and 62mpg at a steady



Ford Escort 1300L 5-door

FORD always maintained that it would cost too much to build. Car fleet buyers insisted that it would cost too much to maintain. But the new front-wheel-drive Escort is guaranteed to succeed.

Ford's trick was to include much of the Fiesta's tried-and-trusted engineering in the new range — but with a new set of engines, fully independent rear suspension, and a hatchback body like no other.

The current Fiesta's 1100cc engine powers the cheapest Escort, and the modern

Welsh-made engines offer 1300cc and 1600cc. They are similar to the new Opel/Vauxhall engine in using an iron block with an alloy cylinder head (the first time for Ford), with overhead camshaft and automatically adjusted hydraulic tappets. All engines except the 1100cc version have electronic ignition, too, so routine service times are now a fraction of the old Escort's.

Though it is less than an inch

shorter than its predecessor, the new Escort is much roomier inside; only one car in this market has more rear legroom — the Austin Allegro. The new Escort can also accommodate loads up to 60in long, thanks to its folding rear seat.

There's no doubt that the new Escort has considerable showroom appeal, but what's it like to drive? Well, our first impression was coloured by a model that had dodgy dampers: its steering and the comfort of its ride were less than ideal. ... Later, we sampled Escorts with all the different engine options and, while their handling

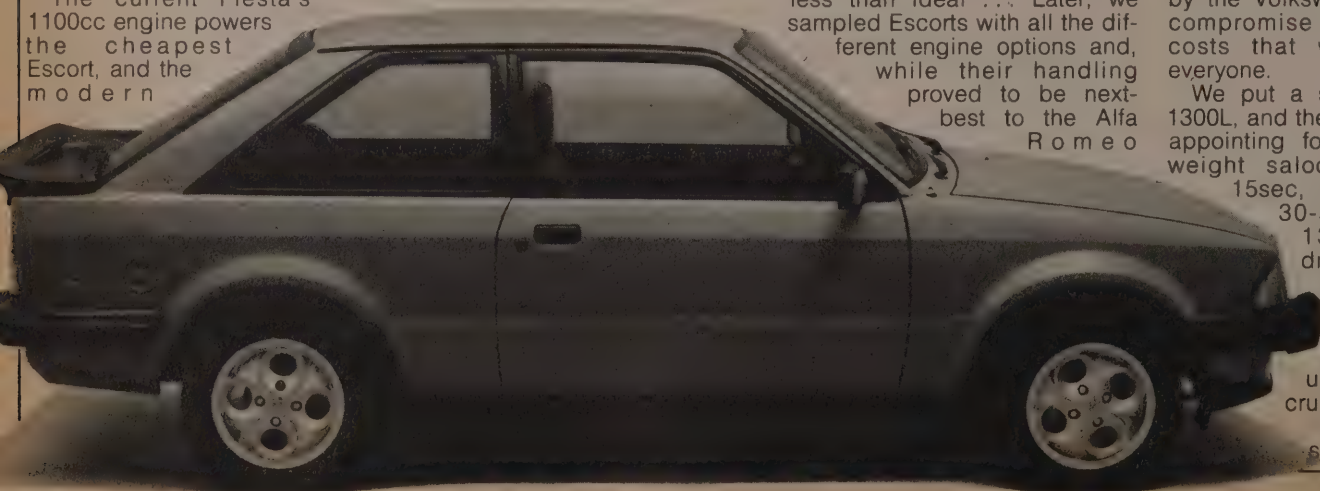
proved to be next-best to the Alfa Romeo



Alfasud's, their ride is bettered by the Volkswagen Golf. It's a compromise in engineering costs that will not please everyone.

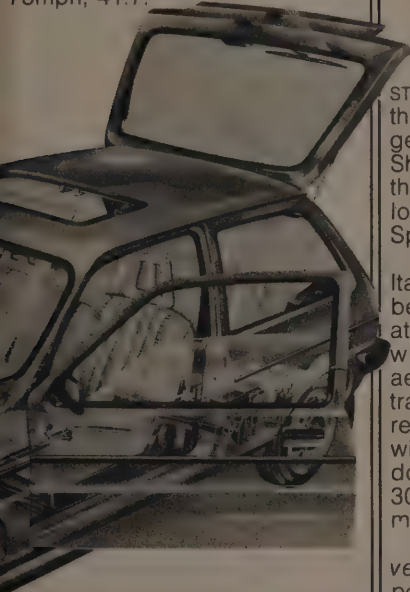
We put a stopwatch on the 1300L, and the results were disappointing for a 69bhp lightweight saloon: 0-60mph in 15sec, and a top-gear 30-50mph slog of 13.2sec. These drawbacks of its high gearing are offset by trend-setting fuel economy figures and relaxed cruising.

The driving seat supports well, just



Rugby players might just survive the inevitable scrum around Motor Show 1980's hundreds of tempting cars. But the rest of DRIVE's readers can stay on the ball with our six-page guide to the cars that stopped our fast-moving testers in their wheeltracks.

50mph. If this is confirmed by our full roadtest, the 1litre Metro will zoom straight into the top three of DRIVE's fuel-savers' chart. The petrol companies losses will be Austin's gain. **Price** to be announced **Maximum speed** 88mph **Government mpg** urban 41.5; steady 56mph, 58.3; steady 75mph, 41.7.



Rolls-Royce Silver Spirit



START DROOLING HERE. No less than three new Rolls-Royces get their first (official) airing at the Show: the Silver Spirit (above), the Bentley Mulsanne, and a long-wheelbase version of the Spirit — the Silver Spur.

Contrary to rumours about Italian stylists, the new trio has been designed entirely by Rolls at Crewe. The engineers' brief was to combine modern aerodynamics with the breed's traditional elegance, which has resulted in a lower waistline, wider lamp clusters, and curved door window glass with a total of 30% more glass than in previous models.

Details such as price (yes, it's very expensive) and engine power ('Adequate, Sir') are, as usual, absent from Rolls-Royce's literature, but DRIVE has managed to extract a few less-closely

guarded secrets.

The designers have been at work since 1974 on the new rear suspension system, improving the heavy body's handling and ride comfort, and reducing road noise. The system uses coil springs as well as gas 'springs' which also act as integral dampers and height adjustment units.

An unusual 'first' in the new suspension is the use of hydraulic system mineral oil in the height adjustment and braking systems. Rolls-Royce has discovered that HSMO is superior to conventional brake fluid in that it works with less friction, and is non-corrosive too. The well-proven 6750cc V8 engine is retained to give its usual whispering performance, and the three-speed torque converter transmission is again controlled by the unique Rolls-Royce electric

gear-range selector. Speed control, enabling the car to automatically maintain a cruising speed on long journeys, is standard, of course, along with all the niceties of motoring life that set Rolls-Royce in a class of its own: upholstery in English hide; lambs-wool rugs; walnut veneer; electronic speedometer; digital clock; digital ambient temperature gauge; digital elapsed-time indicator; combined fuel- and oil-level indicator; oil-pressure gauge; ammeter and engine coolant temperature gauge; warning lamps for low pressure in hydraulic systems...

The models being replaced are the Silver Shadow, Silver Wraith and Bentley T series. The new Silver Spirit continues Rolls' affection for ghostly nameplates, and the growing importance of its long-wheelbase saloons has been recognised in the revival of the venerable Bentley Flying Spur's title. Modern Bentleys had only an initial letter to their name, but the new Mulsanne recalls the marque's sporting history. The Mulsanne Straight is the fastest part of the Le Mans 24hour race-track, where 1930s Bentleys earned their laurels. **Price** Around £50,000 **Maximum speed** Three figures **Fuel consumption** Two figures (just).



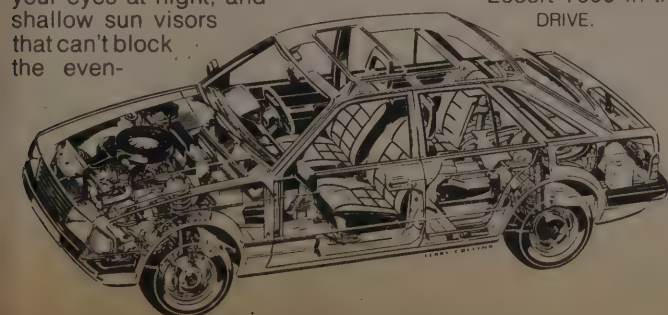
like the latest Cortina's, and the controls' layout feels just right. Its precise gear shift is almost as good as the old Escort's — which nevertheless is very acceptable.

Minor quibbles are illuminated heater controls that can get in your eyes at night, and shallow sun visors that can't block the even-

ing sun. Impressive warning lamps are a feature of GL and Ghia models; they monitor levels in your radiator, sump and washer bottle. One 1600 GL's silicon-chip technology was not infallible, however. Our tester was frightened into a layby by a 'radiator boiling' warning lamp glowing without good reason.

The new Escort proves that the space gain of a front-wheel-drive layout pays dividends. But we were disappointed at times by the new engines' sound and feel. The result is not very thrilling, but nevertheless very practical. **Price** on the road £4161 **Maximum speed** 93mph **Fuel consumption** 38mpg overall.

See our full road-test of the new Escort 1600 in the next DRIVE.



Honda Accord Executive



ONE OF THE FEW cars, at any price, to offer air conditioning as standard equipment, Honda's Executive is perhaps the nearest that current Japanese cars get to the European ideal. There is little to complain about in the Accord's ride and handling, and the Executive boasts electric windows, power steering, radio/cassette player and electric aerial. Warning lamps glow when it's time to change engine oil, oil filter or tyres, and the automatic version now features a change like everyone else's. Honda has taken the initiative in chasing the driver who wants big-car luxury without a big fuel thirst. **Price** on the road £5669 **Maximum speed** 91mph **Consumption** urban 26.9; steady 56mph 38.1; steady 75mph 27.1.

Mitsubishi Colt Lancer 1400GLX

MITSUBISHI's saloon now looks as if it could have come from a European factory, so devoid is it of the usual Oriental chrome. Underneath its smart new suit, however, is the old Japanese story of vague-feeling, recirculating-ball steering — even if the ride has improved. So why do we like Colts? Because they have a superior quality of finish and build compared to other Japanese offerings. The company cunningly solved its lack of a five-speed gearbox for its front-drive engine by adding an extra gear-box. You get eight forward gears and two reverse. **Price** on the road £4459 **Maximum speed** 98mph **Government mpg** urban 28.1; steady 56mph 40.9; steady 75mph 26.6.



Daihatsu Charade



THE CHARADE is both very economical and usefully quick. Its underbonnet secret is an innovative three-cylinder 993cc engine, transversely-mounted and driving the front wheels via a five-speed gearbox. Buyers will welcome its European-style rack-and-pinion steering, typically Japanese level of equipment, and five doors. For full details see our road test on pages 31-34. **Price** on the road XG £3096, XTE £3466 **Maximum speed** 86mph **Government mpg** urban 36.4; steady 56mph 51.4; steady 75mph 32.2.

Honda Civic 1300

HONDA may be one of Japan's smaller car manufacturers (about BL Cars' size), but its products invariably appeal. Available in 3- and 5-door form, the new Civic is outwardly similar to its predecessor, but is redesigned. **Price** on the road £3209 **Maximum speed** 91mph **Government mpg** urban 31.4; steady 56mph 42.2; steady 75mph 30.6.



Suzuki SC100

SUZUKI entered Britain's baby-car market earlier this year with this 2-plus-2, which is as economical as many a motorcycle. Its 907cc four-cylinder overhead-cam engine is claimed to push up to 60mph in 16.5sec — and it does push: the SC100 is rear-engined. Its equipment level is excellent for this price range, with all the usual Japanese goodies. **Price** on the road £2662 **Maximum speed** 85mph **Government mpg** urban 41.9; steady 56mph 56.5; steady 75mph 40.



Fiat Panda 45



FIAT'S PANDA — looking as if its top and bottom halves were styled by different studios — will be one of the new Mini Metro's great rivals. For the technically minded, its transversely mounted 903cc engine drives the front wheels with 45bhp at 5600rpm. With an overall length of 11ft 1in and a wheelbase of 7ft 1in the Panda weighs in at a flyweight 1500lb — which promises good fuel economy. **Price** to be announced **Maximum speed** N/A **Consumption** N/A.

TR7 Drophead



LEAVING its unfortunate history in a cloud of dust, Triumph's rag-top now has the quality it always deserved, and ventilation as originally planned — before Ralph Nader frightened Triumph into building the Fixedhead first. A rollover bar should be standard equipment. American models boast the splendid Rover V8 engine. **Price** on the road £6279 **Maximum speed** 110mph **Government mpg** urban 22.7; steady 56mph 37.9; steady 75mph 30.7.

Citroen Visa Club



NOBODY EXPECTS Citroen to build boring cars, and the Visa's no exception. The differences are not just visual. The cheaper Club has a tiny 652cc air-cooled two-cylinder engine which produces a clever but lowly 36bhp. We rate both this and the more powerful Visa Super highly. **Price** on the road £3408 **Maximum speed** 85mph **Government mpg** urban 36.7; steady 56mph 48.7; steady 75mph N/A.

Porsche 924 Carrera GT

A TRUE SUPERCAR, this latest 924 is a further nail in the coffin of its rich sister, the 911. This beastly offers ultra-safe handling and fuel economy in addition to true Porsche performance. And if fuel consumption doesn't worry your average Porsche owner, at least the wealthy can regard it as an excuse for indulging their spending power. We hear that the ride is an improvement over the 924 Turbo's — it needs to be. Supercars should be comfortable as well as quick. **Price** £18,999 **Maximum speed** 150mph **Government mpg** urban 22.8; steady 56mph 42.8; steady 75mph 34.9.



Jaguar XJ12 5.3

WITHOUT QUESTION, BL Cars' pride and joy is the most refined saloon ever. Our captains of industry can still afford them (just), but they are setting their executives an example in frugality by trading down to 4.2litre versions. So lift the bonnet to admire this masterpiece. You may never see its like again. **Price** on the road £18,327 **Maximum speed** 150mph-plus **Government mpg** urban 10.9; steady 56mph 19.3; steady 75mph 16.7.

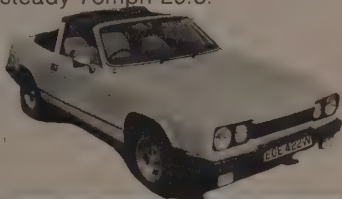


Rover Vanden Plas

VANDEN PLAS LUXURY replaces Rover's V8S model at the Show. The VP version features leather seats, electric sunroof and remote-controlled door mirrors — a first for a British car — and cruise control, too. Good news is that the car's price remains the same as the V8S. Claimed improvements are its long-legged cruising ability and fuel economy. **Price** on the road £11,955 **Maximum speed** 125mph **Government mpg** urban 16.2; steady 56mph 36.3; steady 75mph 27.9.

Reliant Scimitar GTC

THIS welcome convertible is now produced alongside the ever-green GTE hatchback. Both models have recently benefitted from a series of improvements, including the adoption of the new Cologne-built 2.8litre V6 Ford engine. Its strong chassis, glass-fibre body and straightforward engineering should endear it to those seeking a long-term love affair, but its lack of sophistication might not please. **Price** £11,530 **Maximum speed** 116mph **Government mpg** urban 18.5; steady 56mph 37.3; steady 75mph 29.5.



Bristol Beaufighter 412/S3



DO YOU FIND Rolls-Royces too staid? Prefer something more traditional than a Lagonda? Then take a look at Bristol's turbocharged Beaufighter — a unique blend of performance, luxury, tradition and fresh-air motor-ing for four. One could be forgiven for querying the need to turbocharge its massive 5.9litre Chrysler V8 engine, but Bristol has never done anything by halves. It's probably the fastest-accelerating automatic four-seater in production — and so much more. **Price** £38,108 **Maximum speed** 140mph **Consumption** 11-17mpg.



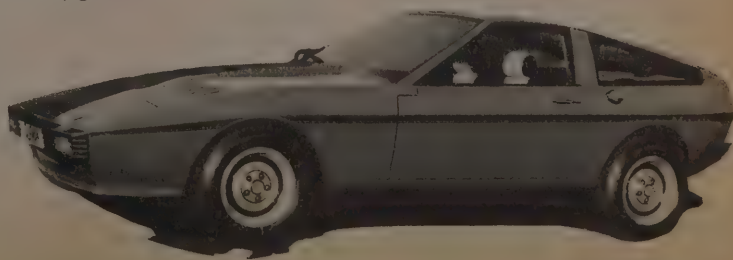
Land-Rover V8



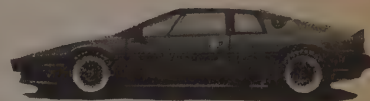
AT THE OTHER end of the performance scale there's another British world-beater — now available with a V8. Produced in long-wheelbase form only, either as a station wagon or pick-up (with hard/soft top and truck cab options), the Land-Rover V8 has many of the high-performance attributes of the Range Rover while retaining all the characteristics of long life and off-road toughness associated with the breed. At the moment, 80% of Land-Rovers are exported — which, with a strong pound at home, is an unhealthy situation for the company — but this situation could change now that the V8 is here to lure home buyers. **Price** on the road £7887-8603 **Maximum speed** 80mph **Government mpg** 15-20.

TVR Tasmin

TVR'S TASMIN was launched last January and is now the only model being made by this specialist Blackpool company. The front-mounted 2.8litre fuel-injected Ford engine develops a healthy 160bhp in a package which can be owner-maintained. Some reckon that the Tasmin is more desirable than Porsche's 924... Well, if it's as much fun as the TVR Taimar we tested last year, then maybe. Look out, too, for the drophead version rumoured to be coming to the Show. **Price** on the road £12,967 **Maximum speed** 133mph **Consumption** 24-30mpg.



Lotus Esprit Essex Turbo



MEET the supercar of the future, when the emphasis will be not on the brute power of large, normally aspirated engines but on the high efficiency of smaller, turbocharged 4-cylinder units. Combined with the body's low weight and slippery shape, the result is scintillating performance from one of the most satisfactory turbo installations. Lotus can meet Ferrari and Porsche opposition on equal terms. **Price** £20,900 **Maximum speed** 152mph **Government mpg** urban 19.7; steady 56mph 38.7; steady 75mph 33.3.

Talbot Lotus Sunbeam



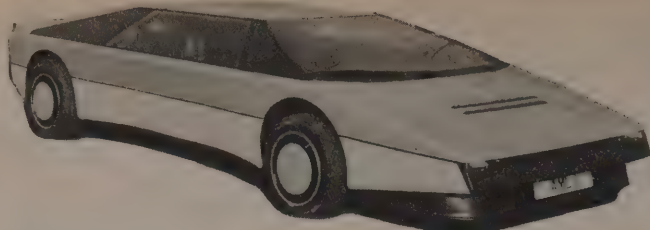
THE 1980s' equivalent of the Lotus Cortina has a 150bhp, 16-valve engine. A five-speed ZF gearbox and alloy wheels are among the changes to the once-inoffensive Sunbeam. **Price** £7367 **Maximum speed** 127mph **Government mpg** urban 17.9; steady 56mph 34.2; steady 75mph 26.4.

AC 3000ME

LOOKING like a pregnant Fiat X1/9, the AC 3000 was originally conceived during the early 1970s as the Diablo. After a long gestation period it's now on sale powered by Ford's 3litre V6 engine, mounted transversely between the rear wheels and driving a five-speed gearbox. Bodywork is glass-fibre on top of a pressed-steel floorpan; novelties include a spring-loaded front spoiler which lowers itself as speed rises and air-pressure increases. A sophisticated, well-appointed two seater coupé, it's a far cry from the hairy 7litre AC Cobras of the 1960s, but just as welcome. **Price** on the road £13,453 **Maximum speed** 125mph **Consumption** 20-26.



Aston Martin Bulldog



ANYONE doubting Britain's ability to build rivals to Italian and German supercars should look at Aston Martin's Bulldog. The awesome appearance of its angular, aluminium body is exceeded only by the sheer brutality of its 5.3litre, twin-turbocharged, fuel-injected V8 engine, which makes it one of the fastest 'street-legal' cars ever built. Not that it's a stripped-down racer, though; the cockpit is leather trimmed, the instrumentation features a digital liquid crystal display, and the gull-wing doors are electrically powered. Interested? Sadly we hear that the Bulldog is essentially a one-off prototype, built for promotional purposes to demonstrate the technical capabilities of the revitalised company — and it has already been sold. **Price** £150,000 **Maximum speed** 190mph (estimated) **Consumption** 14-15mpg.

Renault 18 Turbo



RENAULT has been busy showing Formula 1 devotees what can be done with a small engine and a turbocharger, so it is only to be expected that the company should go looking for a commercial spin-off. The result is the Renault 18 Turbo, already launched in Paris. It goes on sale in the UK early in 1981. **Price** £5900 (approx) **Maximum speed** 115mph **Consumption** urban 28.8mpg; 56mph 44mpg; 75mph 33.5mpg.

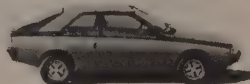
New at Birmingham will be two significant Renault diesel cars — the 20TD and 18TD.

Alfa Romeo Alfa 6

WHILE YOU'RE ON the Alfa Romeo stand, see its first modern bid for the luxury car market. While styling similarities to the 7-Series BMWs gives the marketing game away, the 2½litre V6 lump, auto-only gearbox and deDion rear suspension indicate a different philosophy to BMW's. The engine's output is deliberately restricted to a still-respectable 160bhp in the interests of flexibility, durability and low fuel consumption. Windows, radio aerial, driver's door mirror and seat-height adjustments are all electrically powered. **Price** £11,900 **Maximum speed** 121mph **Consumption** urban 15.1mpg; 56mph 29.2mpg; 75mph 24.8mpg.



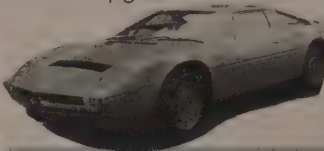
Renault Fuego GTS



FUEGO IS SPANISH for fire, but it's now the French for Renault coupé, too. This new model replaces the ageing 15 and 17 Series, and competes in the same market as Ford's Capri and Volkswagen's Scirocco. Available as a 1400cc TL; 1650cc TS, GTS and auto; and also as the 2litre TX and GTX, its practical features include fold-down rear seats and a huge Porsche 924-style opening rear screen. The curvaceous styling is pleasantly different from the wedge designs of Signor Giugiaro. **Prices** £4500-£6000 **Maximum speed** 112mph **Consumption** urban 26.6mpg; 56mph 44.5mpg; 75mph 34.8mpg.

Maserati Merak SS

THIS CHEAPEST of Maseratis has been around for years, but still looks good. Would you believe it was styled by the same team which re-designed the Morris Marina? The specification says it all: maximum power 208bhp at 5800rpm; three twin-choke carburettors; four overhead camshafts; 0-60mph in 7 sec. Standard equipment includes air conditioning and a whole lot more. DRIVE rates this Maserati very highly. **Price** on the road £23,287 **Maximum speed** 156mph **Consumption** 17mpg overall.



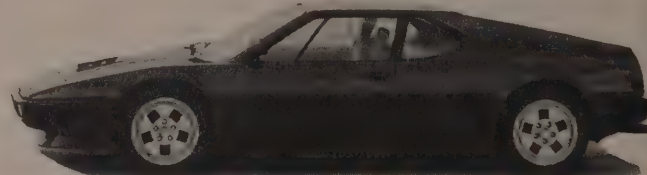
Audi Quattro



THIS ROAD-GOING VERSION of Audi's rally special is on offer to qualify the car for international events. DRIVE's guess is that Audi will be encouraged to build a lot more than this for, thanks to the clever use of mass-produced parts such as the 2144cc five-cylinder engine, this is a bargain-basement supercar. Four-wheel drive for traction and stability makes it a hot property on the off-road sections of rallies. **Price** £17,000 approx **Maximum speed** 150mph **Consumption** urban 18mpg; 56mph 36mpg; 75mph 27.2mpg.

BMW M1

LIKE NO BMW before it, this is a mid-engined, Giugiaro-styled glass-fibre two-seater, using a six-cylinder engine derived from the 635 coupé. It's the exclusive flagship of the range — but not so exclusive that it won't sell 400 to qualify for competition use. Lamborghini was to have built it for BMW, but the firm's collapse means that the M1 is assembled by a number of Italian and German specialists. With a relatively modest 3½litre engine under its bonnet, it has a 0-60mph time of less than 6sec — similar to the Aston Martin Vantage's 5litre performance. **Price** £38,000 **Maximum speed** 161mph **Consumption**: 15.4mpg overall.



Mercedes-Benz 380 SE



PROFESSIONALS and amateurs alike can admire engineering par excellence on the Mercedes-Benz stand. This year, interest is centred under the bonnets — especially that of the new-to-Britain 380 SE with its lightweight V8 engine. Wealthy Europeans are already queuing to buy the ultimate Mercedes with its 5litre version of the same engine — the 240bhp 500SEL. Do play with the novel electric seat-adjustment switch: it's seat-shaped itself, and moving it in the direction desired automatically moves the seat. **Price** £19,450 **Maximum speed** 131mph **Government mpg** urban 15; steady 56mph 25.4; steady 75mph 21.2.

Toyota Celica 2000GT Liftback

JUST ABOUT EVERY Toyota at Birmingham will be a new 1980 version of the company's successful and enduring ranges. Its Corolla is the world's best-seller of any car type; its Celica is the world's best-selling coupé (below); and the Crown is celebrating its silver jubilee. The company also claims that its four-wheel-drive Hi Lux has become Britain's most-sought-after cross-country vehicle since its launch a year ago. **Price** on the road £6165 **Maximum speed** about 105mph **Government mpg** urban 21.7; steady 56mph 37.2; steady 75mph 28.8.



Lancia Delta

THIRTY-SEVEN motoring journalists voted the Lancia Delta the Car of the Year 1980 — 15 others disagreed. And this was before the launch of the mini Metro or the Ford Escort... The Delta is a expensive hatch-back when you realise that it's a Fiat Strada with a fancy body — though Lancia buyers have traditionally been less interested in prices than most of us. Options include air conditioning, electric windows for the front doors, sunroof, alloy wheels and a heated driver's seat. **Price** on the road £5279 **Maximum speed** 100mph **Government mpg** urban 28.4; steady 56mph 40.3; steady 75mph 30.2.



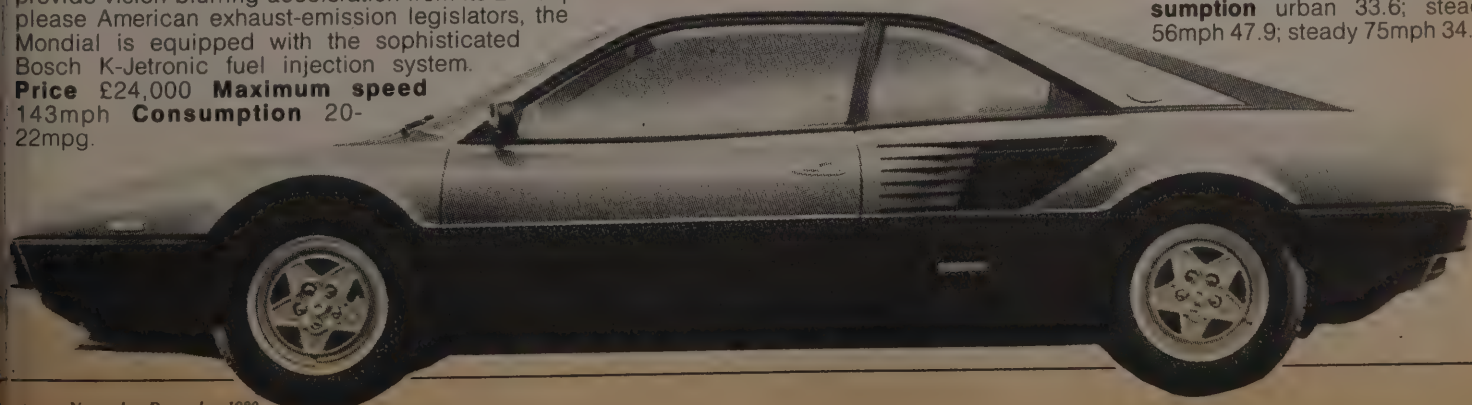
Citroen GSA Pallas



DON'T DISMISS the GSA as just another facelifted 10-year-old. Its latest modifications — 1300cc engine, 5-speed gearbox and a tailgate — have made the GS the car it always deserved to be, and confirms the brilliance of the original design. The GSA is now a versatile, efficient and pleasing car, though we still wonder how many British motorists will accept its relative complication and potentially high running costs in exchange for these virtues. **Price** on the road £4746 **Maximum speed** 100mph **Government mpg** urban 30.1; steady 56mph 40.9; steady 75mph 31.7.

Ferrari Mondial 8

LAUNCHED in Geneva, this latest offering of Enzo's will be new to many Show visitors — and DRIVE. Its looks speak for themselves — designers always seem to have difficulty combining the body-beautiful with four seats. But the engine — a transversely mounted V8 — is sure to provide vision-blurring acceleration from its 214bhp. To please American exhaust-emission legislators, the Mondial is equipped with the sophisticated Bosch K-Jetronic fuel injection system. **Price** £24,000 **Maximum speed** 143mph **Consumption** 20-22mpg.



Mazda RX7 TWR



MAZDA'S FAITH in the rotary engine is unshakeable — despite exhaust-emission and fuel-consumption problems. Appropriately, its rotary was reintroduced in this sports car, whose buyers will be receptive to innovation and worry less about fuel consumption than a good power-to-weight ratio and smoothness — traditional rotary engine virtues. It's a rewarding drive — if you can afford the fuel. **Price** on the road £7395 **Maximum speed** 120mph **Government mpg** urban 18.1; steady 56mph 33.2; steady 75mph 27.

Subaru 1600 4-Wheel-drive



NOT EVERYONE needs four-wheel-drive, we know, but DRIVE's testers know that the little Subaru can do almost anything that a Range Rover can do — and for much less money. But the interior looks too posh for use on the farm. **Price** £4983 **Maximum speed** 87mph **Government mpg** urban 25.4; steady 56mph 36; steady 75mph 25.7.

Mazda 323 hatchback

DESIGNED TO COMPETE with the mini Metro and new Escort, Mazda's 323 will be a late starter in March next year — but it's the front-runner of 1980's Japanese cars. It has front-wheel-drive, all-independent suspension, rack-and-pinion steering, five-speed transmission, and Mazda claims that the new body is more aerodynamic than the VW Golf's or new Opel

Vauxhall Astra L

VAUXHALL'S RIVAL to the new Ford Escort is the thinly disguised Opel Kadett. It's the first European front-wheel-drive car from America's General Motors and is, in many respects, a close copy of the market leader — Volkswagen's Golf. Currently, the Astra supplements Vauxhall's existing Chevette range, but we expect Vauxhall to import a version of the recently announced, smaller-engined Kadett as a replacement. **Price** £4729 **Maximum speed** 101mph **Government mpg** urban 28.8; steady 56mph 47.1; steady 75mph 34.



Saab 900 Turbo

NEW TO BRITAIN is this saloon version of the five-door Saab 900 Turbo. As in other Saabs, the back seat can be folded down to provide a 69in-long load platform. Rear-seat headroom has been increased by more than 1in, so it could be that Saab wants to sell to chauffeur-driven executives. **Price** £10,350 **Maximum speed** 125mph **Government mpg** urban 20.3; steady 56mph 41.2; steady 75mph 32.5.



Kadett's. Split folding rear seats are standard and, on the 1500GT version, they recline. **Price** N/A **Maximum speed** 96mph **Consumption** urban 33.6; steady 56mph 47.9; steady 75mph 34.4.

Annual cycle

WE CHOSE our motorcycle carefully. It had to be sufficiently big and powerful to carry two people and their luggage on long, high-speed motorway trips; nimble enough to cope with London traffic; economical enough to warrant regular, money-saving use; durable enough to withstand outdoor garaging; reliable enough for frequent business trips; and simple enough for the average DIY owner to look after.

The choice almost made itself — it just had to be a BMW. The German bike maker resolutely follows the route it so correctly chose in 1922 with its first motorcycle, the R32 — a 500cc, shaft-driven twin. Since then, BMW has continued to build simple, durable and light motorcycles. When reliability is invariably linked with simplicity, one can only marvel at its four-strokes having fewer component parts than a good many of the opposition's two-strokes!

Choosing the R65 from BMW's range was less easy. The R65 is frequently lambasted by those who revere the finish of its 1960s predecessor, the R69S. This was the last of a line that earned BMW its 'Rolls-Royce of motorcycles' reputation — beautifully engineered bikes that cost so

much to build they almost broke BMW.

In my opinion, the R65's finish beats that of the 1960s model in every respect. Where the older machine was fitted with a finely turned and enamelled metal casting, the new one has plastic moulding — to good advantage: its plastic mudguards, side panels, instrument binnacle, toolbox, rear lamp, and indicator lamps required nothing more than a wipe over to restore them to as-new appearance. These all help to make this compact motorcycle light, too.

Understandably, newcomers to the breed assume quite the opposite: 'The engine's so big', they say — an impression created by the two cylinders protruding from either side of the machine. Contrary to popular opinion the cylinders do not impede safe and easy riding through heavy traffic, and neither do they spark on the ground during fast cornering — at least, they don't if you have a scrap of sanity under your helmet. What they do pro-

vide are winter foot warmers — luxury beyond measure.

Most of the space above the cylinder barrels contains the air filter system. At the front, behind its cover, is the 280w alternator, beneath is the wet sump, and behind is the clutch and gearbox. Like a car — and a growing number of Japanese motorcycles — the crankshaft is a one-piece forging running on plain roller bearings.

How it went

In one year's use, 10,280 miles were recorded, including 300-mile return trips to London, commuting in the city, numerous high-speed, long-distance motorway dashes — occasionally with pillion rider and luggage, and weekend outings.

During the worst mid-winter rainstorms a single polythene sheet was draped over the R65 to stop water freezing moving parts, but at all other times garaging was under the open sky.

BMW mechanics serviced the machine once during its initial running-in period, but from then on it was maintained with the standard toolkit in ordinary home conditions.



David Minton's year with a BMW R65

HOW IT MEASURES UP	BMW R65
Engine	Air-cooled ohv 4-stroke twin
Capacity Output	645cc 45bhp at 7250rpm
Transmission	5-speed shaft drive
Kerbweight seat height max width max length	479lb 30 5in 28in (rocker boxes) 83in
Fuel tank Mpg — overall quiet use suburban use brisk use hard use	4.4gal/255 miles plus 3 pint reserve 56mpg 75mpg 61mpg 48mpg 32mpg
Performance — max (upright) 0-50mph 30-50 (top)	100mph 4.8sec 7.6sec
Warranty:	12 months, unlimited mileage, parts and labour

All went well until the oil stain that had begun to spread from a pushrod tunnel/crankcase seal burst out along with the seal at 3400 miles. The seal was squeezed easily back into place and gave no further trouble, though the oil stain remained.

Shortly afterwards, the engine refused to idle and starting became difficult. I serviced the bike according to the unusually comprehensive owner's manual: the single contact-breaker points were regapped, the two carburetors rebalanced, and the four valve clearances corrected. Access to the crankshaft-mounted contact breaker points was good, but adjustment was made tricky by the proximity of the front wheel. Carb balancing is daunting, but BMW's instructions made it easy, and the valve clearance adjustments were no more difficult than wiring up an electricity plug. Curiously for an orthodox ohv engine, precise adjustment of valve clearances and timing was essential. After 3800 miles, the twice-

flattened battery defeated all my home remedies. BMW discovered a short-circuiting starter solenoid, which was replaced under warranty.

With 6900 miles under its wheels, the R65 was returned to BMW for a thorough inspection. No serious faults were discovered, but the weak pushrod tunnel seal was changed, and another leaking seal in the fork's offside telescopic leg needed replacement, too. Large amounts of sludge and grit were discovered beneath its outer dust cap — a probable cause of the failure.

By 8270 miles, the nearside carburettor's float-bowl gasket had cracked and was leaking petrol fast enough to saturate a riding boot. A permanent repair was made with the old gasket and Hermetite's Instant Gasket.

Apart from the two seals and the starter solenoid, corrosion presented BMW with its more-serious warranty problems. The thinly painted black pressed-steel headlamp mounting bracket had corroded badly, and the chromium-plated exhaust system was rusting beneath its four hose-type attachment clips. Paint also peeled off the nearside pillion rest-cum-silencer mounting bracket, but this was eventually traced at a later date to an incorrectly located battery breather pipe fuming over it.

How I went

No manufacturer takes motorcycling more seriously than BMW, and this R65 conformed to the pattern of all two-wheeled BMWs: a very satisfying performer with stamina. It was a tireless yet untiring mile-eater, devoid of nasty habits. When necessary, I discovered on a German trip, 90mph could be maintained without any signs of stress — mechanical or human. Any attempt to cruise faster than this was futile as every hill and headwind slowed the machine, and petrol consumption increased to no great speed advantage. At

90mph it averaged approximately 39mpg, but above this consumption worsened to 32mpg.

Thanks to its lean-on-the-wind riding position, high-speed R65 cruising did not cause any physical strain. Vibrations, too, were non-existent except for a slight tremor at 4500rpm (75mph).

If anything, the front brake was a mite too powerful, but always sensitive, smooth and predictable in all weather conditions. The rear drum unit is one of the best back brakes around and, although it could be locked if applied hard, it provided a rare measure of rear-end braking safety.

The versatile suspension is soft at low speed and firms-up nicely on its variable springs and damping as the faster, longer movements of speed took over. When asked, the R65 can corner at speeds that keep it ahead of other motorcycles with more-powerful engines. At such times a slight but harmless wriggle can be felt to move between the wheels as power is eased off, but this occurs only at near-racing speeds.

Complaints? Well, the R65's worst problem stems from BMW's reliance on tyres rather



than a stiff frame to give lateral stability and keep the wheels in line. My R65 was equipped with a set of Continentals, and long before their treads were worn by any normal standards, mild steering defections arose. Both front and rear tyres wriggled around surface irregularities in a manner they should not, and the effect went through the entire machine. It's apparently harmless, but upsetting for all that.

Smaller, but no less problematical, was the ergonomics of some of the bike's controls. If the dip-switch and the turn-signal toggles had been larger and farther apart, fewer oncoming drivers would have been confused. In heavy winter gauntlets, both switches are too easily operated simultaneously. And why, oh why, has BMW crowded together the choke lever, petrol tank tap and dip-stick? Again, in heavy winter gauntlets, feeling for the choke lever was near-impossible, and seeing it impossible as it is under the tank and left knee.

The little thing that really irritated, though, in the R65's case,

proved to be the tyre valves. They're located inside a web of cast-aluminium spokes, and, placed in the traditional, upright fashion of motorcycles, they were impossible to reach. Of the dozens of garage forecourt airlines I attempted to use — some with a furious desperation — not one would lift those wretched valves. Neither BMW nor various tyre manufacturers could justify their not angling the valves car-style; some even found the problem amusing...

How much

BMW provides one free service at 600 miles, and advises owners to have two more services in the first year of ownership, at 5000 and 10,000 miles (or six months and one year). There is no set charge for them, and they are not obligatory to maintain the warranty. I discovered that each service should cost in the region of £25 plus parts and materials, so I think it advisable to make use of BMW's specialist servicing in the first year of ownership. After this period no competent DIY owner should have to worry about the maintenance and running repairs.

The shocking rapidity with which modern motorcycle tyres wear out has to be experienced to be believed — such is the penalty of their previously unavailable wet-road adhesion. The test machine was invariably ridden at a pace that no sensible private owner would ask of his machine for long. Even so, 6500 miles for a rear tyre and 10,000 miles for a front is disconcerting, especially at £24 and £27 respectively.

During the test, 183gal of 4-star petrol was used, at a poor mean of 56mpg. An average price of £1.36 a gallon (calculated over a year of fluctuating pump prices) totals £249, or 2.5p per mile.

Servicing and parts comprised two engine-oil changes and one transmission-oil change at almost £6, an oil filter at £2.45, and a rear lamp bulb at 40p. These costs and that of tyres amounted to £59.85, or 5p a mile. Total running costs were exactly 3p a mile.

Verdict

Despite a few early defects, my R65 suffered no serious problems, and the minor snags were all covered by its warranty. No owner/rider would treat his own machine as hard as I pushed mine. Yet I found no weakness that could prevent the R65 from starting a journey (bump-starting got over the two flat-battery incidents), or finishing it. And, in between the two, I enjoyed it thoroughly.

Any time now, BMW's transport manager will be telephoning for the return of his R65. Shame, it's just beginning to loosen up nicely.

Letters

Views to air? Tell DRIVE about your motoring and what it means to you. You can send letters for publication — unstamped — via DRIVE Directory, FREE-POST, AA, Basingstoke, Hampshire RG21 2EA.

Spark of hope

Nobody would disagree with the AA's chief engineer, Marcus Jacobson: there may be a lot of life left yet in the internal combustion engine. But I would take issue with his anti-electric attitude (DRIVE, September-October).

All right, electric propulsion will not solve our energy problems overnight (at the present rate of technology, the best we can expect is a softening of the blow). But the fact is that the blow has already fallen, and the automobile industry is in a fine tangle, indicating, as one leading oil company's advertising so rightly points out, that we need to buy time.

History has recorded more than 600 attempts to launch a viable electric car — and the 'folly' of these adventures has been seized upon by the voices of doom on nearly every occasion. True, as Mr Jacobson argues, we would need to increase our generating capacity if everyone drove electric vehicles. But he goes on, it would take oil to achieve it.

This is a blinkered view. Who is to say that mankind won't take progressively bigger steps forward to produce electricity from solar power? I certainly believe that man will rise to the challenge of creating, in the next decade, a complete energy system which will consign the internal combustion engine to the museum.

I am convinced that the next 10 years will herald not only the optimum internal combustion

car, but also an electric version. We will also witness, I feel sure, the arrival of the hybrid car.

Roy Haynes
Maldon, Essex

● Roy Haynes, formerly on the boards of Ford and British Leyland, is now director of Electraction and designer of its first electric car. It was his optimistic article on the future of electric propulsion cars (DRIVE, September-October, reproduced from the magazine Electrical Review) that prompted Marcus Jacobson to give his opposite point of view — EDITOR

Safety Last

It is ludicrous that new cars



ON-THE-ROAD NEW-CAR PRICE-GUIDE

What's it called? How much does it cost? DRIVE's superguide to the latest prices of new cars currently available in Britain tells you all you need to know, immediately, whether you're buying or just browsing. And our prices aren't just what the manufacturer says: we tell you the size of the cheque you can expect to write to put your new Mini or Rolls on the road, seatbelts, numberplates, road-fund licence and delivery paid. Want to know more? Well, if the car of your choice has a DRIVE/AA road-test report number beside it, you can have a copy of the best car criticism in the business. AA members can apply to their regional AA office — address in Handbook. Otherwise, write to DRIVE New-car Price-guide, Fanum House, Basingstoke, Hants, RG21 2EA. But we must now ask readers who request more than one to pay 10p for each report.

(a) denotes road test on automatic model only; delivery charges where applicable estimated on an average 200 miles.

Model	Manual	Auto	DRIVE/AA Road Test
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AC (14 dealers)			
3000ME	13452	—	

ALFA ROMEO (142 dealers)			
Alfasud 1.3 (new model)	4282	—	
1.5 (new model)	4482	—	
Ti 1.5	4482	—	
Ti 1.5 Sprint (new model)	4982	—	
Sprint Veloce 1.5	5602	—	
Giulietta 1.6	5282	—	
1.8	5582	—	
2.0	5982	—	
Alfetta 2000L	6482	—	
Alfa Romeo 2000	7482	—	
GTV 2000	7582	—	
GTV/SE	8180	—	
Alfa 6	—	12082	

ASTON MARTIN (25 dealers)			
V8	34587	34587	
V8 Vantage	37088	—	
V8 Volante	42588	42588	
Lagonda	—	50022	

AUDI (365 dealers)			
80LS	5546	5900	
GLS	6045	6398	D18/79
GLE	7253	—	
100 Avant L	8344	—	
L5S	6848	7406	
GL 5S	7802	8159	
L5D	7662	—	
Avant GL 5S	7789	8347	R1176
GL 5E	8006	8565	D8/78
CD 5E	—	10019	
Avant CD 5E	—	10486	
200 5T	13108	13108	

AUSTIN-MORRIS (1706 dealers)			
Mini 850 City	2837	—	RTR340
850 Super	3106	—	
1000 Super	3184	3654	D3/78
Clubman (1098cc)	*3307	—	RTR410
Clubman (998cc)	—	*3777	
estate (1098cc)	*3554	—	
estate (998cc)	—	*4024	
1275GT	*3623	—	
Allegro 1100	*3334	—	
Mk 3 1.1 4dr	*3471	—	
1300 2dr	*3466	*3936	
4dr	*3603	*4073	
1300L 2dr	*3756	*4226	

4dr	*3893	*4363	
1300HL 4dr	*4253	*4723	
1300 estate	*3862	*4332	
1300L estate	*4152	*4622	8014A
1500L 4dr	*4075	—	
1500L estate	*4334	—	D9/79
1500HL 4dr	*4435	—	
1750L 4dr	—	*4537	
1750L estate	—	*4796	
1750HL 4dr	*4609	—	R1182
Equipe	4313	—	
Vanden Plas	—	—	
1500 4dr	5681	—	
1.7	—	6144	
Ital 1.3L 4dr	3889	—	
1.3HL 4dr	4133	4558	
1.3HLS 4dr	4550	4975	
1.3L estate	4354	—	
1.7L 4dr	4115	—	
1.7HL 4dr	4359	4784	
1.7HLS 4dr	4775	5200	
1.7L estate	4581	—	
1.7HL estate	4825	5250	
1.7HLS estate	5201	5626	
Maxi 2L	4480	4981	
2HL	4720	5221	
2HLS	4811	—	
Princess 1700L	*4596	*5126	
1700HL	*4993	*5523	
1700HLS	*5437	*5967	
2000HL	*5302	*5832	
2000HLS	*5734	*6273	
2200HLS	*5894	*6424	D11/78

*While stocks last

BENTLEY (77 dealers)			
T2 Series	—	42204	
Corniche	—	82722	
Convertible	—	66610	

BMW (144 dealers)			
316	5622	—	R1149
320	7057	7517	
323i	8192	8652	D12/79
518	7252	—	
520	8417	9127	D11/78
525	9592	10127	
528i	10862	11377	
M535i	14012	—	
728i	12702	13217	
732i	14592	15107	
735i	16442	16802	
735i Special	17396	17756	
635CSi	19217	19217	

BRISTOL (0 dealers)			
412 S2	—	—	
convertible-saloon	—	32827	
412/S3	—	—	
Beaufighter	—	38108	
603 S2	—	39328	

BUICK (5 dealers)			
Century	—	9755	

CADILLAC (5 dealers)			
Seville Elegante	—	21946	
Elegante (lhd)	—	19573	
Seville	—	18539	
Seville (lhd)	—	16166	
Fleetwood	—	—	
Brougham	—	—	
d'Elegance	—	16046	

CATERHAM CARS (0 dealers)			
Super Seven TC	6081	—	
1600 Sprint	5587	—	
1600GT	5217	—	

CHEVROLET (5 dealers)			
Caprice Classic	—	13081	
Classic (lhd)	—	10857	
Classic estate	—	13205	
Classic estate (lhd)	—	10982	
Monte Carlo coupé	—	10055	
Corvette (lhd)	—	12405	

CITROËN (271 dealers)			
2CV6	2597	—	R1118
Dyane	2840	—	D1/79
Visa Club	3408	—	
Super	3737	—	
GS	3955	—	
estate	4219	—	
GS 1220 Club	3804	—	RTR384
Pallas	4220	4483	
estate	4059	—	D8/79
GSA (1299cc)	—	—	
Club	4520	4686	
Pallas	4883	5048	
estate	4860	5022	
CX Reflex	6350	—	
Athena	7046	—	
2400 Pallas	7695	7910	
2500 Diesel	—	—	
Super	7865	—	
Diesel Pallas	8320	—	
2400 Pallas	—	—	
Injection	—	8810	
GTI	8785	—	
Prestige	—	—	
Injection	—	11765	
2400 Super estate	7473	7838	
5-speed	7815	—	
2500 Diesel	—	—	
Super estate	7893	—	
5-speed	8035	—	
Familiale 2400 Super	7609	7974	
5-speed	7757	—	
2500 Diesel	8025	—	
5-speed	8187	—	

COLT (290 dealers)			
GLX 3dr	—	—	
hatchback	4059	—	
GLX 5dr	—	—	
hatchback	4309	4654	

Lancer 1400GLX	4459	4804	
1600GSR	4859	—	
Celeste 1600ST	4559	—	
GS	4719	—	D5/78
2000GT	5059	—	
Sigma 1600GL	4719	5064	
2000GLX	5359	5704	RTR432
estate	5959	—	
Sapporo 2000	6659	7004	

DAIHATSU (83 dealers)			
F20 soft top	5315	—	
hard top	5481	—	
F50 soft top (diesel)	5766	—	
hard top (diesel)	5932	—	
Charade XG	3096	—	
XTE	3466	—	

DATSUN (400 dealers)			
New Cherry 1.0	3010	—	R1179
3dr hatchback	3300	—	R1179
1.0GL 3dr	—	—	
1.0GL 4dr	3394	—	R1179
saloon	—	—	
1.2GL 3dr hatchback	3360	—	
1.2GL 5dr hatchback	3508	—	
1.0GL 5dr estate	3529	—	R1179
1.2GL 3dr coupé	3802	—	R1179

Sunny 1.2GL			
2dr	3483	—	
1.2GL 4dr	3543	—	
1.4GL 2dr	—	3940	
1.4 GL 4dr	3624	3990	
1.2GL estate	3801	—	
1.4GL fastback estate	4192	—	
1.4GL hatchback coupé	3989	—	
5-speed	4064	—	
Violet 1.4GL	3940	—	
1.6GL	4030	4328	
1.6GL hatchback coupé	4512	—	
Bluebird 1.6GL	4343	—	
1.8GL	4462	4760	
1.8GL estate	4842	—	
1.8GL coupé	4942	5240	
Laurel 2litre	5653	5993	
2.4litre	6354	6894	
Skyline 2.4litre coupé	7305	7645	
280C 2.8litre	7854	8194	
2.8litre estate	7854	8194	
280ZX 2-seater 2+2	8785	9125	
	9740	10080	

DE TOMASO (2 dealers)			
Pantera GTS	23071	—	
Longchamp	—	27095	
Deauville	—	30222	

FERRARI (17 dealers)			
Dino 308GT4	17700	—	
308GTB	20266	—	
308GTS	21166	—	
400GT	33916	33916	
512BB	33364	—	

FIAT (380 dealers)			
126	2357	—	

should still be sold with only toughened glass windscreens, which can do dreadful things to occupants in an accident. Experts agree that the Triplex Ten-Twenty screen is so much safer, yet, apart from the Austin Princess, Dolomite, Rover SD1, a couple of Rolls-Royces and a Volvo, no others include it as standard equipment.

And why, oh why, do manufacturers continue to fit mild-steel exhausts? There was a time when we could afford to pay for replacements every 18 months or so. But these days, when the garage bill can be £70 and more, it really hurts. Factory-fitted, stainless-steel systems must be

notably cheaper in the long run. E Thomas
Norwich, Norfolk

Cambridge man

Your reference to Rovers old and new (DRIVE, July-August) prompts me to sing the praises of an equally good British car—the Austin Cambridge. After some 124,000 miles, my wife and I are still enjoying BMC's last and best family model. An overall 32mpg (37mpg on motorways), with four adults and their luggage aboard, can't be bad for a vehicle that was made in 1967.

After such trouble-free and reliable service, I have decided to start an owners' club for the mar-

que, so if any readers run an Austin Cambridge, I would be glad to hear from them.

R C Fraser-Milner
The Austin Cambridge Owners' Club (A50-A55-A60)
26 Baynham Road
Mitcheldean, Glos.

Protection racket?

Recently, I was the innocent victim of an accident. A car behind me pushed into my 1973 Ford Escort, causing £650-worth of damage.

But the worst was yet to come. My insurance company decided to write off my car. This presumably means that, despite its once A1 condition and low mileage,

I will collect only around £500. Of course, I could opt to have the car repaired, but that would mean having the £200 or so salvage value deducted from the insurance company's settlement.

So, after years of paying out premiums to protect my car, I am left with neither sufficient cash to buy a replacement vehicle nor enough money to have it fixed.

Yet a garage, somewhere, will almost certainly buy the wreck, restore it to roadworthy condition . . . and sell it for £800-plus.

Nigel Watson
Leatherhead, Surrey

Recruiting drive

The 75th Anniversary of the

de Ville	2581	—	D1/79
127 900L 2dr	3151	—	RI137
1050L 3dr	3359	—	
1050CL 3dr	3526	—	RTR429
Sport	3957	—	809
128 1300CL	3412	—	RTR402
CL estate	3954	—	
X1/9 1500	5938	—	D14/79
Mirafiori 1300CL	4133	—	
4dr	4267	—	
1600CL 4dr	4681	5008	
estate	4934	5261	RTR412
Supermirafiori			
1600TC	5172	5499	D10/78(A)
estate	5372	5699	
Mirafiori Sport	5630	—	
132 2litre	6132	6471	D12/78
Bellini	6383	6722	
Strada 65L			
1300 3dr	3682	—	
65L 1300 5dr	3817	—	
65CL 1300 3dr	3992	—	
65CL 1300 5dr	4133	—	
75CL 1500 3dr	4458	4776	
75CL 1500 5dr	4572	4890	D17/79

FORD (1241 dealers)			
Fiesta 950	3214	—	RTR417
1100	3389	—	
950L (45bhp)	3580	—	D16/79
950GL	3830	—	
1100L	3741	—	
1100GL	4000	—	
1300GL	4210	—	
1100S	4104	—	
1300S	4314	—	RI181
1100 Ghia	4395	—	RI170
1300 Ghia	4604	—	
Escort 1100 3dr	3511	—	
5dr	3661	—	
1300 3dr	3680	—	
5dr	3830	—	
1100L 3dr	3832	—	
5dr	3982	—	
1300L 3dr	4002	—	
5dr	4152	—	
1600L 3dr	4158	—	
5dr	4308	—	
1300GL 3dr	4348	—	
5dr	4498	—	
1600GL 3dr	4505	—	
5dr	4655	—	
1300 Ghia 3dr	4863	—	
5dr	5013	—	
1600 Ghia 3dr	5020	—	
5dr	5170	—	
Cortina 1300	3897	—	
1300 4dr	4032	—	
1600	4256	4642	
1300L	4226	—	RTR372
1300L 4dr	4369	—	
1600L	4591	4976	D22/79
1600GL	5089	5475	
2000GL	5345	5731	
2300GL	6009	6395	RI183
1600 Ghia	5809	6195	
2000 Ghia	5973	6359	
2300 Ghia	6637	7023	
1600 estate	4676	5062	
1600L estate	5135	5521	
1600GL estate	5553	5939	
2000GL estate	5818	6204	RTR413
2300GL estate	6479	6865	
1600 Ghia			
estate	6266	6652	
2000 Ghia			

estate	6429	6815	
2300 Ghia			
estate	7090	7476	
Capri 1300L	4306	—	RTR373
1600L	4528	4914	
1600GL	4891	5277	RTR342
2000GL	5201	5587	
1600S	5512	—	
2000S	5791	—	RI166
3000S	6226	—	
2000 Ghia	6436	6822	
3000 Ghia	—	7266	RI114
Granada 2000L	6155	6625	RI128
2300L	6802	7272	
2300GL	8169	8639	
2800GL	—	8784	
2800GLS	9445	9915	
2300 Ghia	9449	9919	
2800 Ghia	—	10077	
2800i Ghia	10523	10993	802(A)
2000L estate	6729	7199	
2300L estate	7378	7849	
2300GL estate	8343	8813	
2800GL estate	—	8951	D8/78(A)
2800i GL			
estate	9599	10069	
2800 Ghia	—	10311	D8/78
estate	—	10311	
2800i Ghia			
estate	10762	11232	
2100 diesel	6326	6796	

FORD USA (14 dealers)			
Mercury Monarch			
Ghia (rhd)	—	9573	
Mustang Ghia			
Turbo (lhd)	7894	—	
rhd	8087	—	
HONDA (236 dealers)			
Civic 1300 3dr	3299	3529	
1300 5dr	3499	3729	RI155
Accord 3dr	4409	4679	RTR420
4dr	4599	4869	D4/79
Executive DL	5399	5669	
Prelude	5204	5474	806

JAGUAR-DAIMLER (286 dealers)			
Jaguar XJ6 3.4	14159	14159	RTR380
XJ6 4.2	15969	15969	
XJ12 5.3	—	18327	RTR305
XJS	—	19358	RTR394
Daimler			
Sovereign 4.2	16993	16993	
Double Six	—	19316	
Vanden Plas 4.2	—	22228	
Double-Six			
Vanden Plas	—	25166	

JEEP (83 dealers)			
CJ7 soft top	5648	—	
hard top	6063	—	
Renegade			
soft top	7724	—	
hard top	8069	—	
Cherokee 4dr			
(6-cyl)	10524	10744	
S (6-cyl)	—	11504	
SV8	—	11924	D2/79
Chief V8	—	12144	
Golden Eagle	—	12674	

LADA (183 dealers)			
1200	2604	—	RI175
estate	2843	—	
1300	2823	—	D4/79

1500 estate	3040	—	
1600	3243	—	RI173
1600ES	3643	—	RI173
Niva	4714	—	

LANCIA (126 dealers)			
Delta	5074	—	
Beta 1.6	5530	5279	
2.0	5850	5530	
2.0ES	6230	6685	
1.6 coupé	6074	6529	
2.0 coupé	6583	7038	
HPE 1.6	6879	7334	
2.0	7388	7843	
Spyder	7054	—	
Gamma	8427	—	
coupé	10579	—	

LAND-ROVER (342 dealers)			
Land-Rover	5893	—	RTR333
diesel	6755	—	
lwb	6823	—	
lwb (diesel)	7715	—	
V8 Station Wagon	8763	—	

LOTUS (31 dealers)			
Elite Series 22	16679	16939	
Éclat	16289	16549	
Esprit	17996	—	

MASERATI (4 dealers)			
Merak SS	23287	—	
Kyalami 4.2	30289	—	
Kyalami 4.9	34288	33279	
Khamzin	34288	—	

MAZDA (227 dealers)			
1300 hatchback	3695	—	D4/78
1300 hatchback			
5dr	3895	—	RTR424
1.4 Special			
hatchback	4095	—	
1400 hatch 5dr	—	4195	
1400 estate	4095	—	D10/79
Montrose			
1600GL	4545	—	
GLS	4845	—	
2000GLS	5145	5461	D23/79
GLS coupé	5645	5995	
2000 estate	5795	6195	
RX-7	8745	—	
TWR coupé	7395	—	

MERCEDES-BENZ (95 dealers)			
200	8528	—	
200D	8659	—	
230	—	9584	
230C	—	11684	
240D	9599	9711	
240D lwb	14228	14668	
240TD estate	10958	10958	
250	—	11128	
250T	—	12273	
250 lwb	—	14228	
300D	—	11309	
280E	—	12909	D11/79
280SE	—	14592	
280CE	—	14674	
280TE estate	—	14429	
280SL	15734	16330	
280SLC	—	17734	
350SE	—	17025	
380SL	—	18434	
380SLC	—	21664	
450SE	—	18273	
450SEL	—	19295	

450SEL 6.9	—	30610	
500SL	—	20434	
MORGAN (18 dealers)			
4/4 1600	5779	—	
4-str	6370	—	
Plus 8	8301	—	

MG (1746 dealers)			
MG Midget	3974	—	
MGB Sports	5792	—	
MGB GT	6223	—	D13/79

OPEL (237 dealers)			
Kadett 1.2L	3656	—	
1.3L	3782	—	
1.2L 4dr	3812	—	
1.3L 4dr	3934	—	
1.2LS hatchback	3763	—	
1.3L estate	4056	—	
1.2L estate	3936	—	
LS saloon	4018	—	
LS 4dr saloon	4172	—	
LS hatchback	4125	—	
LS hatchback			
5dr	4277	—	
LS estate	4346	—	
LS estate 5dr	4464	—	
GL saloon	4665	—	
GL hatchback	4772	—	
GL estate	4874	—	
Berlina 4dr	5135	—	
Berlina 5dr	5242	—	
SR	5049	—	
Ascona SR	5412	—	
L 4dr	4378	—	
GL 4dr	4649	5115	
GL 2.0 4dr	4913	5379	
Berlina 2.0	5657	6123	

Manta			
Berlinetta			
hatchback	6284	6750	
coupé	6142	6608	
Rekord 4dr	5853	6349	
Berlina	6392	6888	
Berlina HL	7353	7849	
DL diesel	7206	7702	
DL estate	6815	7311	
DL estate			
diesel	7771	8267	
Senator 2.8S	9378	9967	
CD	12298	—	
Monza coupé	12752	13341	

PANTHER (30 Lima and 4 de Ville dealers)			
J72 4.2	*24157	*24580	
de Ville 5.3			
saloon	—	*58412	
convertible	—	*72377	
Lima	*9160	*9621	
Lima Turbo	*12157	—	
*Until stocks are sold			

PEUGEOT (269 dealers)			
1042L	3323	—	
1042R	3654	—	
1042R Custom	3852	—	
1042S	4253	—	RI146
104GL	3453	—	RTR406</

Automobile Association reminds me that, while going through my late father's effects, I came across an old key with overlapping AA initials.

He'd come home from London one day, nursing a car with a temperamental carburettor along a road with few passing places, when another driver roared up behind him, furiously sounding his klaxon...

On arriving at Hertford, this irate motorist followed my father home and said he was going to prosecute him for obstructive

driving, adding that he was a member of the AA, who would attend to the legal side of the case.

Next day, my father drove to London and joined the AA himself. Naturally, nothing more was heard from the other fellow... S C Elms Neale Hertford

●The item referred to is actually an AA lavatory key that was issued to members between 1912 and early 1920s - EDITOR

Have and have-nots

The government's proposed tax on car ownership (DRIVE, September-October) is, I feel, to

be wholeheartedly condemned.

While drivers of company-owned cars will be able to take this tax as lightly as they have recent petrol increases, poorer private owners will once again be hit the hardest: motorists who have been obliged to lay-up their 'old faithful' while saving for repairs to make it roadworthy; owners who need to mothball their transport for six months.

A Morris
Old Basing, Hampshire

Bit on the side

Until recently, I worked in a garage where the malpractices in

crash repairs exposed by DRIVE (July-August) were commonplace. On one occasion, a complete side was cut off a second-hand shell and fitted to an insurance job.

(Name and address supplied)

Two-star treatment

Twenty years ago, in the days of £ s d, the equivalent of 2-star petrol was 2d cheaper than 4-star. Now, though prices have doubled, it is still only 2p cheaper.

Are owners of 2-star cars subsidising the rest?
Philip Nuttall
Darwen, Lancashire

ON-THE-ROAD NEW-CAR PRICE-GUIDE

305SR	5013	—	RI162
305SR Custom	5404	—	
305GRD	5306	—	D19/79
304GL estate	3935	—	RTR386
304SL estate	4232	—	
504GR	5079	5573	RI174M
504GRD	5811	—	RTR425
504 estate	5588	—	
GR estate	6304	6898	RI159
Family estate	6684	7178	
D estate	6321	—	
Family diesel estate	7505	—	
505GR	6382	6877	
SR	6907	7401	
TI	6883	7377	
STI	7604	8099	803
GRD	7197	—	
SRD	7721	—	
604SL	8794	9388	RTR391
TI	10389	10853	RI167
D Turbo	9692	—	

POLSKI FIAT (115 dealers)			
125P	2616	—	RTR379
estate	2972	—	
Polonez	3532	—	

PONTIAC (5 dealers)			
Trans-Am (rhd)	—	12379	

PORSCHE (27 dealers)			
924	9394	9873	D7/78
924 Lux	9873	10351	
924 Turbo	14289	—	
911SC (coupé or targa)	10723	—	
911SC (sport coupé or targa)	18470	—	
928	22118	22118	
928S	25542	25542	
911 Turbo	28241	—	

PORTARO (44 dealers)			
Pampas 250D	7083	—	
250DL	7463	—	
250DPU	7601	—	
250DP	7750	—	

RELIANT (184, and 76 Scimitar dealers)			
Robin 850	2910	—	
estate	3190	—	
Super Robin 850	3315	—	
estate	3595	—	D21/79
Kitten DL	3450	—	
DL estate	3710	—	
Scimitar GTE	10494	10494	RTR303
GTC	11530	11530	

RENAULT (463 dealers)			
4TL	3299	—	RI161
4GTL	3501	—	8017
5	3168	—	
5TL	3658	—	D3/78
5GTL 3dr	3871	—	RI143
5dr	4031	—	
5TS	4263	—	RTR370
5 auto 3 dr	—	4375	RI172
5dr	—	4536	
5 Gordini	5504	—	803
12TL	4020	—	RTR385
estate	4476	—	RTR374
14TL	4143	—	RTR414
14GTL	4379	—	
14LS	4413	—	
14TS	4708	—	D6/78
18TL	4357	—	

18TS	4771	—	RI189
18GTL	4969	—	
18 auto	—	5467	
18GTS	5429	—	
18TL	—	—	
estate	4824	—	
18LS	—	—	
estate	5055	—	
18TS	—	—	
estate	5287	5638	
20TL	5668	—	RTR409
20LS	6128	6464	
20TS	6846	7182	D12/78(M)
30TS	8176	8513	RI134(M)
30TX	9649	9985	RI134

ROLLS-ROYCE (77 dealers)			
Silver Shadow II	—	42204	RTR312
Silver Wraith II	—	49691	
Corniche	—	62722	
Convertible	—	86610	
Camargue	—	76364	

ROVER-TRIUMPH (925 dealers)			
Rover 2300	*6764	*7241	RI186
2600	*7944	*8206	D8/78
3500	*10319	*10581	RTR428(M)
V8S	*12012	*12274	
Range Rover 3.5	13091	—	D2/79
Triumph	—	—	
Dolomite 1300	*4155	—	
1500	*4474	*4928	RTR345
1500SE	*4139	—	
1500HL	*4949	*5403	RTR345
1850HL	*5442	*5896	RTR288
Sprint	*8525	*6692	RTR332

*While stocks last

SAAB (195 dealers)			
99GL 2dr	5462	—	
99 Turbo 2dr	8127	—	
900GL 3dr	9667	—	
900GLS 3dr	6962	7537	
900GLS 4dr	6782	7247	
900GLS 5dr	7182	7827	
900GLE 4dr	9230	9398	
900GLE 5dr	9087	9077	
900 Turbo 3dr	10537	—	
900 Turbo 5dr	10937	—	
900 Turbo	—	—	
5-speed	11343	—	

SKODA (285 dealers)			
S110R coupé	2288	—	
105S	2308	—	
105L	2458	—	D1/79
120L	2507	—	
120LE	2708	—	
120LS	2958	—	RI169
120LSE	3159	—	

SPARTAN (0 dealers)			
Sports 2dr	—	on app-	
2+2	—	lication	

SUBARU (103 dealers)			
GLF	4142	—	
GFT coupé	4640	—	
4wd saloon	5138	—	
DL estate	4341	—	
4wd estate	5387	—	

SUZUKI (27 dealers)			
SC100	2662	—	
QF soft-top	3612	—	
LJ80V 4wd	3812	—	

TALBOT (600 dealers)			
Sunbeam 1.0LS	3421	—	RI164
1.3LS	3688	4102	
1.0GL	3734	—	
1.3GL	4000	4414	
1.6GL	4165	4579	D6/78
1.6GLS	4727	5141	
1.6Ti	4828	—	
Lotus	7367	—	
Avenger 1.3LS	3848	4262	
1.6LS	4013	4427	
1.3GL	4455	4869	
1.6GL	4620	5034	
1.3LS estate	4282	4696	
1.6LS estate	4446	4860	
1.3GL estate	4915	5329	
1.6GL estate	5079	5493	
1.6GLS estate	5280	5694	

Horizon LS			
1118cc	3886	—	
1294cc	4039	—	
GL 1118cc	4408	—	D5/79
1294cc	4561	—	
GLS 1234cc	4970	—	RI177
SX 1442cc	—	5632	
Alpine LS			
1294cc	4451	—	RI151
1442cc	4654	—	
GL 1442cc	5158	—	RTR381
GLS 1442cc	5965	—	
SX 1592cc	—	6884	
Solara 1.3LS	4231	—	
LS 1.6	4428	—	
GL 1.6	4914	—	
GLS 1.6	5644	—	
1.6SX	—	6532	
2litre	5426	5784	RTR308
Matra Rancho	6101	—	

TOYOTA (236 dealers)			
Starlet GL 3dr	3261	—	D3/79
1200GL 3dr	3491	—	
1200GL 5dr	3591	—	RI187
Corolla 1300DX 2dr	3415	3614	
1300DX 4dr	3515	3715	
1300DX 5dr estate	3745	—	
1600DX 3dr liftback	4036	—	
1600SR5 3dr	—	—	
coupé	4384	—	
Carina 1600 DL	4085	4374	D10/78
1600DL	—	—	
estate	4345	—	
Celica 1600ST	—	—	
coupé	4564	—	
2000ST	—	—	
Liftback	4960	—	RTR423
2000XT	—	—	
Liftback	5847	6053	
2000GT	—	—	
Liftback	6165	—	
Cressida	—	—	
2000DL	4741	5016	
estate	5057	5372	
Corona GL	—	—	
Liftback	5435	5835	RI185
Crown 2800	—	—	
Super 4dr saloon	—	8666	

TVR (21 dealers)			
Tamsin	12967	—	

VAUXHALL (602 dealers)			
Chevette E 3dr	3391	—	
L 3dr	3702	4091	
GL 3dr	4104	4493	D3/79
E 2dr saloon	3339	—	

E 4dr saloon	3476	—	
L 2 dr saloon	3650	4039	
L 4dr saloon	3787	4176	RTR396
GL 4dr saloon	4188	4577	
E 3dr estate	3821	—	
L 3dr estate	4124	4513	
Astra L 5dr			
hatchback	4540	—	
GL 5dr	4968	—	
L 5dr estate	4729	—	
Cavallier 1300L	4190	—	
4dr	4327	—	D9/78
1600L 2dr	4414	4880	RTR382
4dr	4551	5017	RI163(a)
1600 LS	4748	—	
1600GL	4997	5463	
2000GL	5261	5727	RI152
2000GLS	5762	6228	
1600GLS	—	—	
sports hatch	5339	5805	
sports hatch	5840	6306	
2000GLS	—	—	
sports hatch	6104	6570	RI184
Carlton 2000	6271	6767	D12/78
5dr estate	6888	7384	
Royale 2800	10697	10697	D24/79
coupé	11267	11267	

VOLKSWAGEN (365 dealers)			
Polo N900 3dr	3421	—	
L900 3dr	3720	—	RTR408
GLS 1100 3dr	4094	—	RI183
Derby			
S1100 2dr	3596	—	
LS 1100 2dr	3957	—	D3/79
GLS 1300			
2dr	4307	—	RI168
Golf N 1100 3dr	3757	—	RTR411
L 1100 5dr	4183	—	RTR411
LD (diesel)			
1500 5dr	5054	—	RI160
LS 1300 3dr	4399	—	
LS 1500 5dr	—	4810	
GLS 1460 5dr	5083	5388	D6/78
GTI 1600 3dr	5858	—	807
GLI	7142	—	
Jetta 1.3L	4368	—	
GL	4814	—	
1.5LS	4905	5210	
GLS	5291	5596	
Passat LS 1600	5229	5563	RTR388
GLS 1600 5dr	5658	5992	RI165
LS estate	5528	5862	
GLS estate	6020	6354	
LD estate (diesel)	5942	6276	
Scirocco GLS			
1600 coupé	6047	6432	D7/79
GTI	6633	—	
Storm	7520	—	

Not everybody loves a fat girl

Renault's first attempt at an east-west engined car has been a success. The generous girth of the 14 may have given it a less-than-successful Billy Bunter profile, but such vital statistics and careful pricing have made this hatchback a family favourite since its 1977 launch, although slower-selling than Renault expected.

Time and sales gimmicks wait for no car, however. The five-door hatchback market became so hotly contested that Renault soon needed a new top-of-the-range model. The simple answer was a bigger engine for extra power with economy, plus such extras as electrically powered windows and central locking.

For 1980, the 14TS has copied the styling of its stablemates, with the front end following the Renault 18 lines.

Renault predicts that its plush

Renault 14TS

Price £4999 On the road £5472

new 14TS will account for 37% of near-18,000 sales of 14s this year. It's further predicted that buyers will be family men aged between 25 and 45. If that sounds like you, read on.

How it goes

To inject the extra power, Renault took a lightweight engine/transmission package from the joint Renault-Peugeot-Volvo factory at Douvrin, enlarged its block from 1218cc to 1360cc, and added a double-barrelled carburettor to increase power from 57bhp to a promising 70bhp. Otherwise, it's an unchanged Renault 14TL engine with single overhead camshaft, built to withstand high revs and

producing its maximum power at 6000 rpm.

Even after careful tuning, our test car churned away for several seconds before bursting into life — and it was no easier to start when the engine was hot. Renault has stuck with a manual choke, presumably for economy reasons, but it is fiddly to adjust. However, once on the move, the engine warms up rapidly and causes few problems in traffic. The only time that our car hesitated was when we accelerated hard out of a left turn; our testers suspected fuel-float surge.

If any of our testers expected sports-car performance to go with the TS badge, they were disappointed — even more so when the

speedometer was discovered to be . . . well, optimistic. Believe what it tells you and you won't go faster than 65mph on Britain's motorways — but just think what that could do for your fuel-economy calculations!

Using our own specially calibrated speedometer at the test track, we discovered that performance has not been boosted significantly, and top-gear acceleration times — from low speeds in particular — are little different from the TL.

Where has all the power gone? Well, the 14TS uses an unfashionable four-speed box, which is a handicap in the economy stakes. So, in order to keep the car as economical as its lower-powered five-speed rivals, Renault uses very high overall gearing: the TS pulls 17.3mph per 1000rpm rather than the 15.9mph of the 1218cc



models. In practice, this means that drivers in a hurry must work the gearshift hard.

Even then, tyre-screaming acceleration from rest to 60mph proves more than 1sec slower than a Ford Fiesta 1300S, and the new Alfa Romeo Alfasud 1.5 may make the 14TS eat dust. And we did try hard, taking the rev counter to 6250rpm — just a whisker over its red-lined limit.

We don't mind rowing a car along with its gear lever when it moves as slickly as a Ford Fiesta's, but Renault's shifts have never been famous for their easy operation. On the 14TS, it has a rubbery, imprecise action that led us into the wrong slot more than once. Reverse gear sometimes crunched on engagement, too, but the clutch does have a light, pleasant action.

In an effort to reduce roll while cornering, TS suspension modifications include a stiffer front anti-roll bar. It sounds as if it should be sufficient, but the handling of the 14TS is unlikely to satisfy the enthusiast who knows how to read the tachometer. The steering is too spongy and imprecise to encourage exploration of the car's abilities — it can undermine even an expert's confidence at first. Despite its promise on paper, we feel that the 14TS fails to deliver: one tester commented that it felt as clumsy as its Billy Bunter styling.

The 14TS may not flounce as much as some Renaults we can remember, but it still wallows in comparison to more-agile rivals. As with most family saloons, its nose drifts gradually wide of the intended course through a corner as speed increases, the steering demanding increasing muscle to master the oversteer. At the limit of its cornering performance, the 14TS simply lifts a wheel — which might look dramatic from the outside, but makes little difference to the driver. On the straight and level, the 14TS has other problems — wandering at will down the motorway and demanding frequent, tiring steering corrections. Reach your destination and the heavy, ponderous steering around town will build up muscles you never knew you had.

Comfort and efficiency are two of this Renault's boasts, and they are fully justified. Unique at this price must be its electric front windows and remote-control door locks (though the hatch still needs a key). Headlamps can be adjusted by hand to cope with the car's sit-up-and-beg attitude when fully loaded, and we approve of the tinted-glass, laminated windscreen, and halogen headlamps. We commented some years ago that the 14TL kept its rear window clean naturally, but

HOW GOOD

At-a-glance

DRIVE's verdict on the Renault 14TS taking into consideration its rivals, its price and what kind of car it's meant to be

Out of 10

PERFORMANCE

●●●●●○○○○○

FUEL ECONOMY

●●●●●●●●●○

HANDLING/STEERING

●●●●●○○○○○

COMFORT/REFINEMENT

●●●●●●●○○○

INTERIOR/LUGGAGE SPACE

●●●●●●●●○

PASSENGER AIDS

●●●●●●●○○○

DRIVER AIDS

●●●●●●●○○○

ACCIDENT/INJURY SAFEGUARDS

●●●●●●●○○○

RUST RESISTANCE

●●●●●○○○○○

the TS's rear wash-wipe kit is handy for clearing off the dew after a damp night out.

Instrumentation, too, impresses, with a central binnacle housing tachometer, fuel gauge and speedometer with a useful odometer, and eight warning lamps cover such mishaps as oil pressure loss, handbrake on and choke out. The heater is the slow-reacting water-valve type, controlled by three vertical sliders for direction, volume and temperature, and two pushbuttons must be operated to activate the two-speed fan. No less than three column stalks are provided, with indicators controlled by the right hand — which many regard as best for righthand-drive cars. The lighting stalk is confusing at

first but quickly mastered, and our only complaint about the wipers is that there ought to be an intermittent setting.

The very accurate quartz clock and reassuring temperature gauge are sited on the centre console, over five rocker switches that control windows, door locks, the rear wash/wipe and rear fog-lamps. Renault remains one of the manufacturers that make you pay extra for a radio.

How comfortable

If only the Renault 14TS was as comfortable as it looks. Its seats seem as impressive as any moon-shot capsule's, with their wrap-round backrests and smart brushed-nylon covers. Snag is, their inadequate support for the lower spine earned complaints from the healthiest testers after only two hours at the wheel. The infinitely variable seatbacks do allow some variety in the discomfort, and slim drivers found that the seat wings now give no support. Whatever happened to the design of the excellent 'adjustable petal' seats in the Renault 17?

The plush front seats steal some of the rear seat's legroom, their padding robbing backseaters of valuable kneeroom: we measured a loss of 1¾in over the old TL. Nonetheless, three adults can sit comfortably in the wide rear seat, and the only complaint we heard from them was about the claustrophobia induced by the high-backed front seats — irritating, but safe.

As one would expect, the TS suspension feels more 'tied-down' than the TL's, but the car is still a softy at heart. Move over to the front passenger seat, however, and you could be forgiven for doubting our dislike of the system. Its long-travelling suspension can provide the sort of passenger comfort that French side roads demand — even if it is more wearing for the driver. Paradoxically, the refined, smooth-running engine only makes one more aware of other sources of noise — creaks from the fascia, and gear whines that drew comment from the most complacent of drivers.

The transverse engine and extra-long wheelbase give the 14TS plenty of space for five people and their luggage. We approve of the bulky spare wheel's location on top of the engine, where it stays clean and does not waste valuable cargo space. A luggage canopy hides valuables from curious eyes, or it can be slotted out of the way behind the rear seat. Folding the rear seat over to form a two-seater estate calls for muscles, gritted teeth and both back doors held wide open. Once folded, the step in the boot floor is

RENAULT 14TS

Parts/repairs (inc VAT)
clutch £51.57 (fitting 4.5hr)
exhaust £78.79 (2.0hr)
headlamp unit £44.50 (0.6hr)
front bumper £64.97 (1.3hr)
laminated windscreen £89.70 (0.9hr)

oil filter and points £6.49 (0.6hr)
major service 10,000 miles (2.5hr)

Insurance group 5

Warranty 12 months/unlimited mileage;
5 year corrosion protection
Standing costs per year/12,000 miles
Loss of value £280
Capital interest £249
New-cost inflation £680
Total standing costs=£1209 (10.07p per mile)

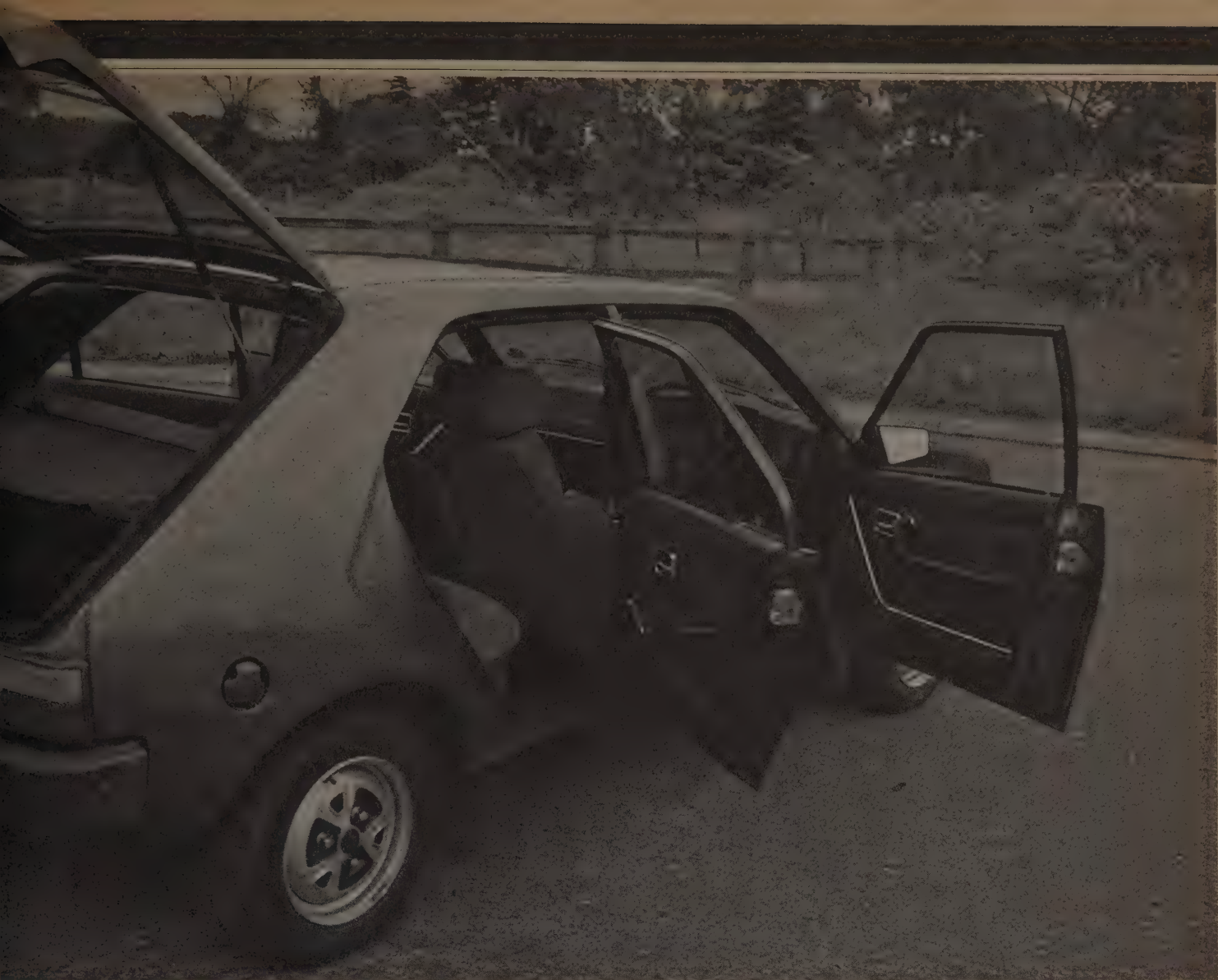
Running costs

Petrol (£1.38 per gal) £453.70
Insurance (av) £193
Road tax, AA sub £60+£26
Servicing/replacements £80.78
Total running costs=£813.48 (6.8p per mile)
Total cost of ownership
£2022 (16.85p per mile)

HOW IT COMPARES

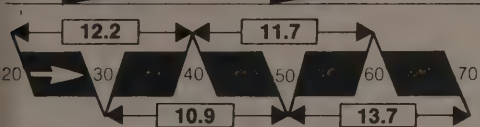
Renault 14TS
Fiat Strada 75CL
Talbot Horizon GLS 1234cc
Volvo 343DL
Peugeot 305GR





ACCELERATION times in sec

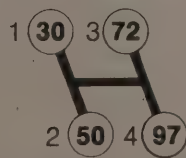
MPH	THROUGH GEARS	IN TOP GEAR
0-30	12.2	3.9
30-40	10.9	2.4
30-50	11.7	5.6
30-60	13.7	10.9
30-70	15.8	17.3
		24.6



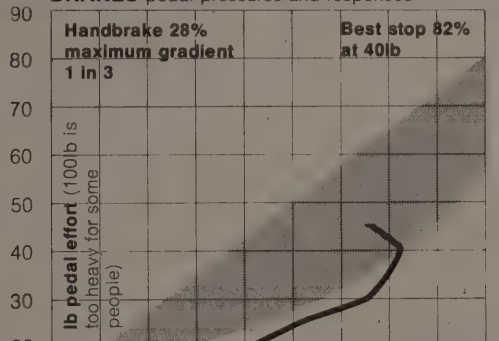
Top-gear speed-range times (sec)

TOP SPEEDS

Max engine speed used 6250rpm; max in top 5600rpm; standing ¼ mile 19.4 sec



BRAKES pedal pressures and responses



30lb at start; **30lb** in constant use; **43lb** in severe use
Watersplash 100lb at first, **7** stops to recover

Fade test pedal pressure needed for 75% stop (ideal car would show no variation)
30lb at start; **30lb** in constant use; **43lb** in severe use
Watersplash 100lb at first, **7** stops to recover

FUEL 4 star/97 octane min

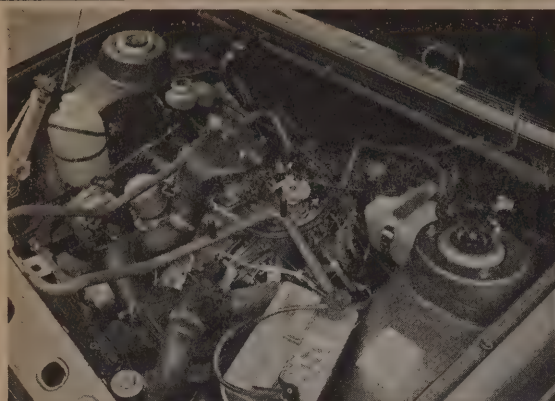
Consumption — normal range

hard driving, heavy traffic	28½mpg
short journeys in the suburbs	29mpg
motorway — 70mph cruising	34½mpg
brisk driving, mixed roads	38mpg
gentle driving — rural roads	44mpg
typical mpg overall	36½
realistic tank range	9½gall/350 miles
30mph	58½mpg
56mph	42mpg
70mph	34½mpg
max mph	20½mpg

SAFETY CHECKS

steering: energy absorbing?	Yes	head restraints: front?	Yes
good road 'feel'?	No	rear?	No
brakes: powerful?	No	interior: well padded?	No
sensible effort?	No	w/screen laminated?	Yes
fade resistant?	Yes	doors: childproof?	Yes
belts: effective?	Yes	latches crashproof?	No
convenient?	Yes	petrol: shielded	
fitted in rear?	No	filler?	Yes
		protected tank?	Yes

ON-ROAD PRICE (£)	ENGINE CAPACITY (CC)	FUEL OVERALL (MPG)	MAXIMUM SPEED (MPH)	30-70MPH THROUGH GEARS (SEC)	30-70MPH IN TOP GEAR (SEC)	BRAKES BEST STOP (% G/LB)	OVERALL LENGTH (FT/IN)	MAXIMUM LEGROOM FRONT (IN)	TYPICAL LEGROOM REAR (IN)	STEERING TURNS/CIRCLE (FT)
4708	1360	36½	97	15.8	24.6	82/40	13' 2"	40½	36¼	4/32½
4458	1498	36	97	13.6	29.4/20.7	100/60	12' 11"	39¼	38¼	3½/34
4970	1294	33½	94	16.8	27.7	96/55	13'	41	37	4½/33½
4559	1397	32¼	88	19.4	28.5	100/70	13' 9"	41½	40	4½/29¾
4583	1290	33¼	88	19.4	31.0	88/38	13' 11"	41½	38¼	3½/32¾



the only flaw in an otherwise excellent load-carrying area, and, in the unlikely event that still more space is needed, it is possible for the rear seat to be removed and left at home. It is not easy to remove, however, and it is even harder to put back again. A careful redesign is needed here. While Renault made a versatile load carrier out of the 5, and an unsuccessful one of the 20/30, the 14 falls in between for convenience and versatility.

Heating and ventilation is excellent, with an output prolific enough to roast the Sunday joint and vents that can cool without draughts.

The centre vent is in two sections that, when turned to face each other, deliver a healthy volume of air ready mixed for consumption. Both heater controls and the push buttons that govern fan speed can be masked by the steering wheel.

The noisy two-speed fan is rarely needed, but rear-seat passengers can suffer cold feet and, as with all water-valve systems, there is a short delay between asking for warmth and getting it.

How strong

There was a time when Renault's rustproofing was as consistent as Britain's weather, but there are now signs of improvement. Renault started guaranteeing its efforts in 1978, and has paid great attention to quality control. Our TS had wax injected well into its box sections, and pvc sealant uniformly applied to vulnerable

areas such as the wheelarches and outer floor pans. But we have seen better paintwork than our test car's metallic finish, with its orange-peel effect and flaws.

We like the plastic bumpers that can shrug off parking knocks — especially as the 14's body design rather invites them: though forward visibility is superb, the car has a poor outlook to the rear and a broad beam.

Mechanically, the 14TS presents no special problems — for the garage, at least — and owners can take comfort in the fact that this engine has been tried and tested elsewhere. Servicing is simplified by a plug-in point for diagnostic engine checks, and bolt-on wings make body repairs easier.

How safe

The servo-assisted brakes incorporate a valve to limit braking pressure on the rear wheels, so preventing their locking up in an emergency stop. However, DRIVE's testers found that, in a panic-stop, the front wheels lock up — and it doesn't take a lot of pedal pressure to achieve a screeching slide. The test car's best stop of only 82% is one of the poorest figures we have ever recorded, and it all happens at a too-light 40lb. Pedal pressures rise by a third under severe use, and it took seven stops for the brakes to dry out after a soaking. The padded rooflining looks reassuring, though more padding on the screen pillars and header rail would not come amiss, and we

remain unconvinced that the door handles would not open under a side impact.

Door locking is centrally controlled by a magnetic switch so that all four doors can be locked or unlocked simultaneously from outside or inside. A safety device automatically unlocks all doors in the event of a severe impact, and a thermal cut-out prevents the circuit from overload.

One of the major safety features built into the Renault 14 — which incidentally was based on Renault's original Basic Research Vehicle of 1974 — is a tubular hoop around the tailgate and a reinforced cross member, designed to absorb rear-impact force. The whole bodywork of the 14 incorporates strengthening members in sides, roof and floor, with progressively crushable front and rear sections and a strong crush-resistant centre body shell.

How much

When asked 'What'll she do?', a 14TS owner can say with some pride: '36½mpg'. It's as good as any for fuel economy — an important consideration when even a 14TS owner will spend more than £450 a year on fuel.

On paper, only the Fiat Strada 75CL looks relatively better by price and performance, but the 14TS is the better equipped, with powered windows and central door locking.

Other additions include a boot light, map reading light and glove box illumination, rear window

wash/wipe and quartz-halogen headlamps.

Most noticeable change on the outside of the TS is its Renault 18-style nose, with direction indicators moved up from the bumper to flank the headlamps, which themselves incorporate parking lights. It makes the front end look wider and smoother, while the heavyweight reinforced-plastic bumpers are now larger and made in black polyester, absorbing impact safely up to 5mph.

Servicing comes round every year or 10,000 miles, with only an oil change at the halfway stage. Front-garden mechanics may find engine access a problem, and they won't be encouraged by a handbook that tells them little apart from the location of the sump plug and a minimal toolkit.

A group 5 insurance rating makes owners pay the price for choosing a foreigner.

Verdict

The 14TS is a strange brew. Its rev counter, go-faster stripes, mediocre comfort and handling are presumably blended to appeal to all tastes, but it's not our favourite recipe. Certainly, we took note of Renault's own publicity to the effect that it is not intended to be a sport — but then we didn't find it very comfortable, either.

So what virtues are left? A roomy, economical and reasonably quiet five-door hatchback — of which there are currently more than 57 varieties at similar or cheaper prices. And our testers think that rivals from Fiat and Vauxhall — the Strada and Astra — are spiced more to their liking.

ENGINE

Type and size front-mounted, transverse 4-in-line, water-cooled; 75mm bore x 77mm stroke = 1360cc; 5 main bearings; alloy block/head

Compression ratio 9.3:1

Valve gear chain-driven overhead camshaft actuating rockers

Fuel system Solex 32 CISA twin-venturi carburettor fed by mechanical pump from 10½gal tank — no reserve

Max power (DIN-net) 70bhp at 6000rpm

Max torque (DIN-net) 78lb ft at 3000rpm

TRANSMISSION

Clutch 7/4in diaphragm spring, single dry plate, cable operated; pedal load/travel: 28lb/5in

Gearbox 4-speed (all synchromesh) and reverse; ratios: first 3.88:1, second 2.30:1, third 1.50:1, top 1.04:1, reverse 3.57:1

Final drive helical pinion gears, 3.56:1 to front wheels

Mph per 1000rpm 17.3mph

CHASSIS

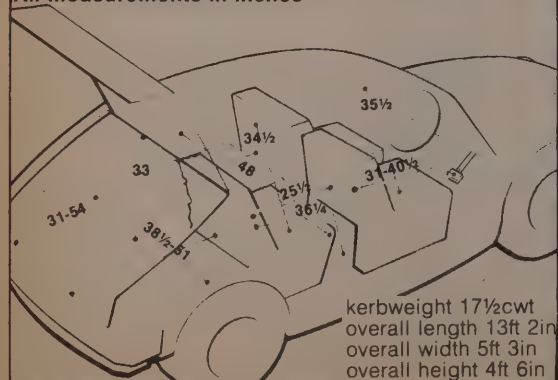
Suspension — front: independent MacPherson damper/struts with coil springs and anti-roll bar. Rear: independent by trailing arms with double transverse torsion bars, telescopic dampers and anti-roll bar

Steering rack and pinion, with 4 turns between full locks; turning circles average 32½ft between kerbs with 62½ft in response to one turn of the wheel

Wheels 4½B rims with 145SR13 steel-braced radial-ply tyres

Brakes dual-line hydraulics; discs front, drums rear, with servo assistance (load sensitive rear valve and line failure warning light)

All measurements in inches



You'll get more out of a new Talbot Solara.



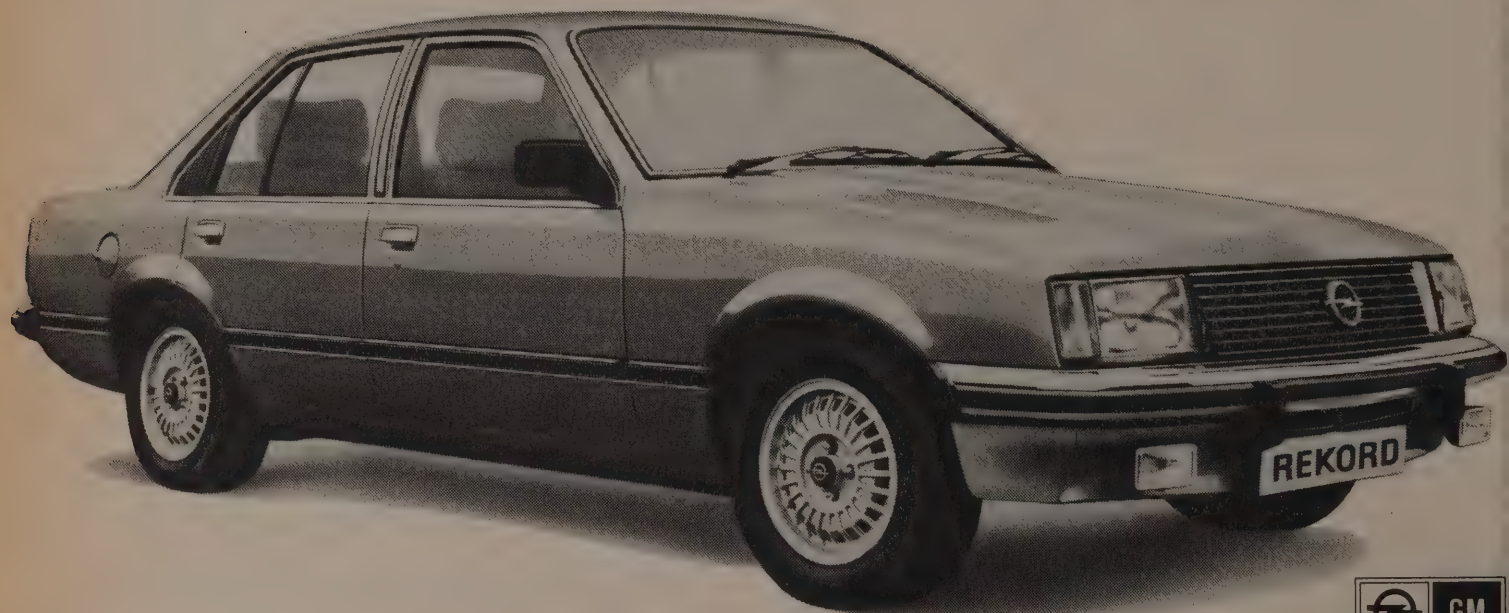
At Stand 209.

TALBOT
SOLARA



ON THE MOVE.

The best thing about a used Opel... is that it's an Opel.



However many tempting come-ons a dealer may offer you, a used car is only as good as the engineering that originally went into it.

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Opel reliability is legendary, thanks to sound design and skillful assembly. Each one receives extensive anti-rust treatment during manufacture, so its showroom beauty is much more than skin deep. And the quality of the materials that go into an Opel keep it in its prime longer than most.

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impressively low running costs, and you'll understand why Opel make great used cars.

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OPEL

Reliability comes as standard.

As prices rise and wages don't, it becomes increasingly clear that something has to go. Assuming that it isn't going to be the car — not yet — wouldn't it be nice to make savings on the garage's bill? However, there's more to changing an oil filter than finding the bonnet release catch. Whether you need a fact or a thingummyjig, DAVID ROWLANDS knows where to find it. Here, he welcomes you to his

Tools paradise

THE SIZE AND scope of an ideal toolkit depends on the individual motorist and what he intends to do with it. Simple weekly checks don't need much more than a tyre-pressure gauge, an oilcan and a supply of clean, non-fluffy rags. At the other extreme is the DIY fanatic whose dream of a workshop looks like the shelves of Halfords at Christmas.

DRIVE thinks that the average motorist will want a kit that falls between these two extremes, containing some indispensable items to speed him through a full preventive maintenance and service in a morning, plus a few more-specialised tools that will help with both tuning and repairs.

A car manufacturer's view of what a motorist will require extends little further than those tools that just might cope with a roadside emergency. Lada cars are unusual in coming equipped with a toolkit that would do justice to most servicing jobs; for the rest, little more than a jack in a canvas sack is the norm.

What you *don't* want, however, is a load of deadweight tools that will gather dust — and rust — in the garage after performing a once-only job. So start small, with just the essential tools, and from then on spend selectively on those that extend your mechanical abilities for the more complex jobs. In no time, it will seem,

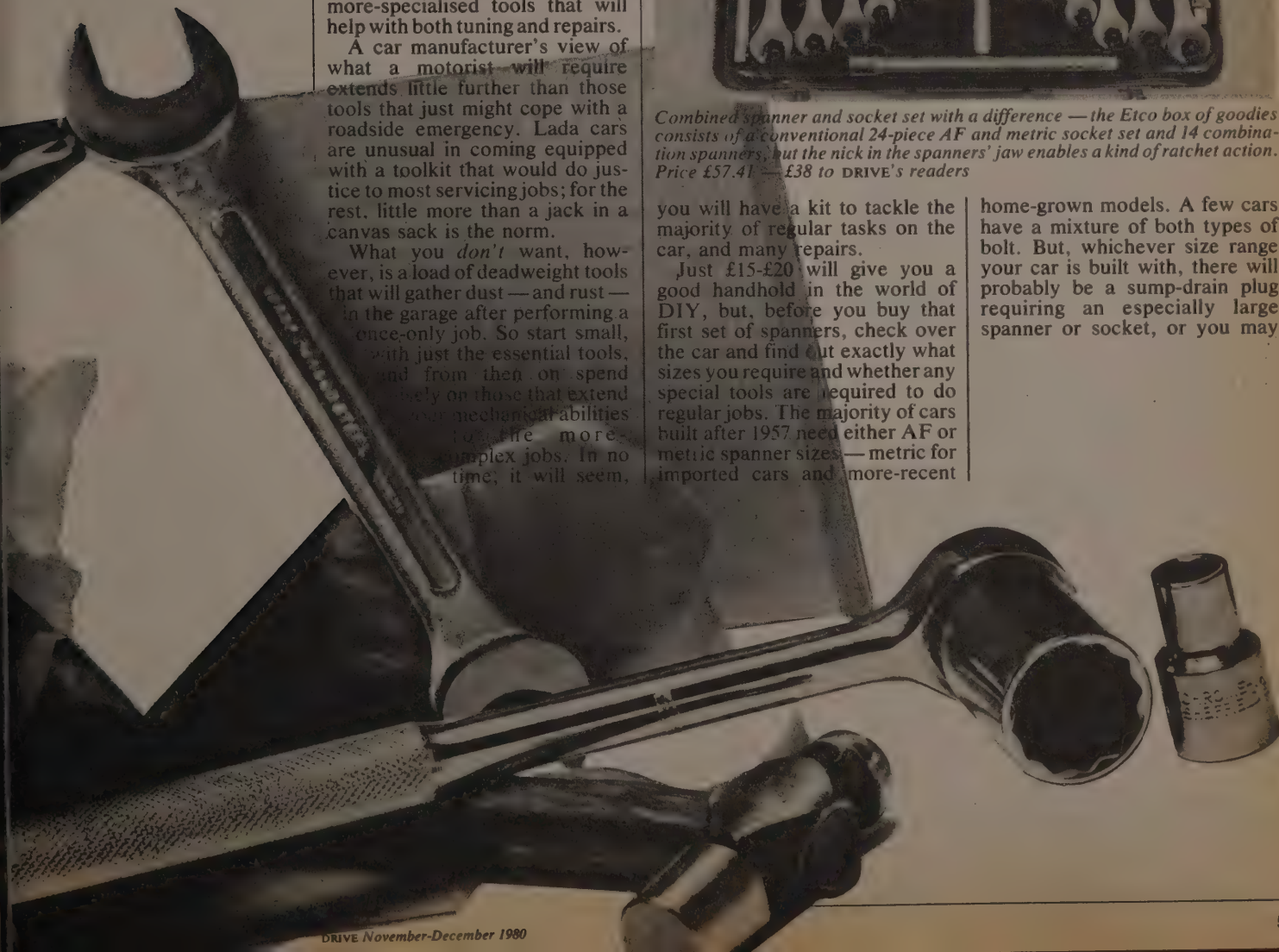


Combined spanner and socket set with a difference — the Etco box of goodies consists of a conventional 24-piece AF and metric socket set and 14 combination spanners, but the nick in the spanners' jaw enables a kind of ratchet action. Price £57.41 — £38 to DRIVE's readers

you will have a kit to tackle the majority of regular tasks on the car, and many repairs.

Just £15-£20 will give you a good handhold in the world of DIY, but, before you buy that first set of spanners, check over the car and find out exactly what sizes you require and whether any special tools are required to do regular jobs. The majority of cars built after 1957 need either AF or metric spanner sizes — metric for imported cars and more-recent

home-grown models. A few cars have a mixture of both types of bolt. But, whichever size range your car is built with, there will probably be a sump-drain plug requiring an especially large spanner or socket, or you may



THE TOOLS AND THE JOBS

even need a special spanner with a square-key end.

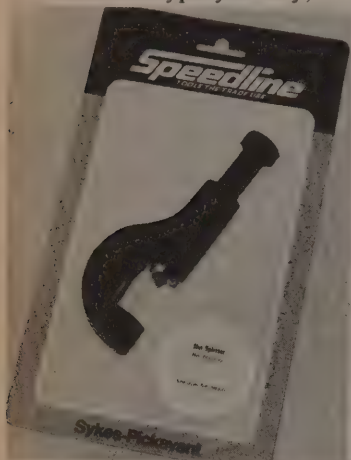
The most-useful tools are the 10 AF spanners that range from $\frac{1}{16}$ in to $\frac{1}{2}$ in (in $\frac{1}{16}$ in steps) or the dozen metric that go from 8mm to 19mm (in 1mm jumps). You will need open-ended spanners for working on unions and other nuts and bolts that can't be tackled from over the top, but ring spanners are lighter and stronger, and, as they surround the whole nut or bolt, they don't slip or strip the hexagon. Get the best of both worlds with a set of combination spanners that have an open jaw one end and a ring the other.

Whichever type you buy, du-

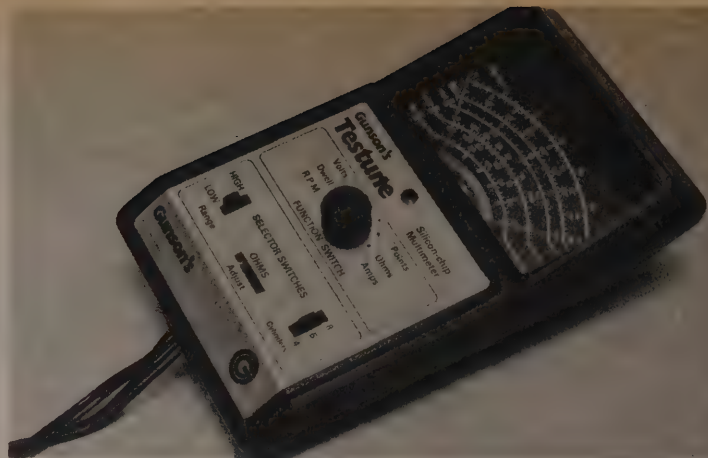
plicate at least the three or four sizes in the middle of your range, so that you can hold a bolt while tightening the nut. An adjustable spanner *will* do this job, and it is a useful tool, but never use it for really tight bolts. Best duplicates of all are a socket set, combining the safety of a ring spanner with the convenience of a ratchet drive. Those with a $\frac{1}{2}$ in drive are most useful, and you should budget £12-plus for a small set of good-quality sockets. Hilka's set carries the AA Seal of Approval.

Screwdrivers are one of the most-abused tools in any kit. Doubling as paint-tin openers, tyre levers, tommy bars and scrapers, it's little wonder that the average DIY man refuses to believe that they are very special tools indeed. You should have several sizes of screwdriver to match the size slots on the various screws throughout the car (in both Phillips — ie cross-hatch — and conventional-slot types). Use the correct one and you will avoid damaging the slot or cross on the screw head. And resist the temptation to wield them as chisels: use screwdrivers only on screws and they will make a positive fit in the slot or cross for much longer.

Standard engineer's pliers with insulated handles should be complemented by a pair of long-nosed pliers for fiddly electrical work. A self-grip wrench — Mole is the major brand — is invaluable when you need three hands for a job. For electrical checks and adjust-



Maker of special tools for the garage trade, Sykes Pickavant packages selected items for the DIY market under the Speedline brand. At £9.03, the nut-splitter is a boon



New in the DIY instruments and tools range of Gunson's Colourplugs is the Testune Multimeter. It displays rpm, points dwell, angle, battery and generator voltage and circuit resistance (useful for spotting bad connections), and it also has a simple points-check facility. Recommended retail is £28.64

ments, your kit should include a simple circuit-tester, a plug-gapping tool, a sparkplug-socket spanner, a feeler-gauge set and perhaps a set of BA spanners — tiny-tot tools for sub- $\frac{1}{4}$ in nuts. And a handyman's knife — it has dozens of uses, from paring wires to cutting pvc insulating tape.

Gadget-type tools are tempting, but a few are invaluable, too. An inspection lamp or lead lamp will allow you to work on the gloomiest recesses of the car — good fluorescent battery types are available, but a mains version gives more light. One of the simplest jobs you will tackle will be an oil change, and the Bell Drainer Can is a superb aid: on its side, it'll catch the drainings down to the last dribble, and it can then be carried upright for convenient disposal of the waste oil.

The list of more-specialised tools you may require for regular servicing jobs is endless. Good buys are items such as the SPQR tappet adjuster, which makes light work of the valve clearances on those cars for which it is designed. For the same job, other cars may require a crowsfoot spanner, Allen keys and a supply of spare shims. All engines benefit from a tune-up with the

aid of a dwell-angle meter and a stroboscopic timing lamp. Together, these might amount to an investment of £30-£40, but you could easily recover this in the space of a year or so in fuel saved.

Brake maintenance goes that much more easily when the right tools are used. A drum-brake adjusting spanner prevents rounding off the square end of the adjuster, and a piston-retracting tool makes life simpler when changing disc-brake pads.

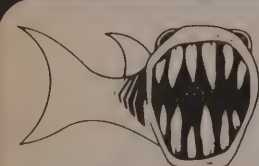
A word of warning: expertise and equipment are vital for this so-important task, but DRIVE is also on extensive record as to the dangers of using cheap parts. It could be your safety that's at stake, so use only car-manufacturers' original equipment or well-known brand names such as Girling, Automotive Products or Quality Assured for brake pads and linings.

If your car has grease nipples — some modern models don't — a grease gun is essential for lubricating. To dispense oil, a squirt-at-a-time oilcan is best.

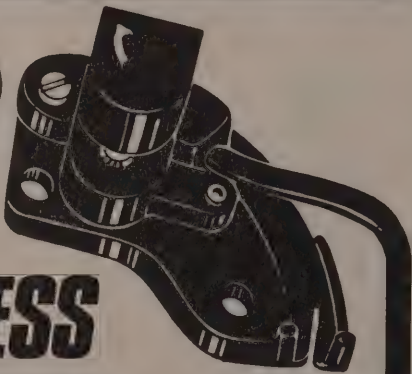
In the course of DIY, you will inevitably meet the odd stubborn bolt or screw that can't be shifted by any less than brute force: while penetrating oil may help, a hack-



Let there be light, for both DIY servicing and roadside repairs. The Transtrip fluorescent inspection strip is encased in a rubber and shatterproof-plastic tube. It runs on the car's 12v battery power and has a 10ft cable. Price is £12.88



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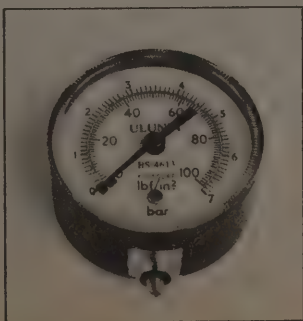
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
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THE TOOLS AND THE JOBS

saw in the toolbox may come in handy, a 3/4lb ball pein hammer will get through to many fixings, and, in the last resort, a nut-splitter could be the answer.

And don't forget that you have to work in safety: a pair of sturdy ramps and/or axle stands are musts before getting underneath the car, and you may also need a good hydraulic or scissor jack to raise the car: few standard jacks will withstand regular use.

DON'T BELIEVE EVERYTHING YOU READ ON THE SPANNERS

DID IT EVER OCCUR to you that the size marked on that spanner might not bear any relation to the size of the nut or bolt it is supposed to fit? Almost certainly not . . . but checks by AA engineers have repeatedly shown that this is by no means uncommon in the DIY-tools business. Indeed, a wide variety of motorist's tools have failed the AA tests that follow the guidelines set by the British Standards Institution. Open-ended spanners have broken and cracked, hammer shafts have split and the heads worked

dangerously loose, screwdriver blades have deformed, pliers have distorted and socket-set ratchets have fallen apart.

Clearly, there's a lot more to buying tools than reading the label. Bill Eccles, secretary general of the Federation of British Tool Manufacturers, admits that choosing a set of trustworthy tools is very difficult. 'The British Standards are not obligatory,' he says, 'and the Trades Descrip-

tions Act does not insist even on a manufacturer's name and country of origin appearing on the label.'

All British-made tools do meet the British Standards, he declares, but this quality is generally reflected in considerably higher prices. Cheaper tools from Iron Curtain countries, India and the Far East are widely available, and what motorist won't snap up an apparent bargain?

Penny-pinching rarely pays off,

however, and the AA's engineers have certainly unearthed some imported horrors — tools that could result in a scraped knuckle at best, and potentially much more serious injuries.

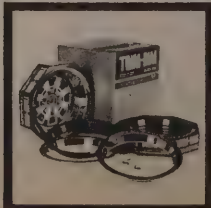
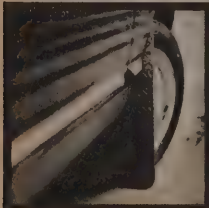
One unhappy customer sent in a shiny set of Indian open-ended spanners, in which two had cracked in corners, at the bases of the jaws. Had he been applying a lot of force at the time of the break-up, it could have been



The set for all aspiring mechanics, Hilka's Pro-Craft has a 44-piece array of chrome-vanadium AF and metric tools. The 1/2in-drive accessories include a speed brace, sliding tommy-bar universal-joint and sparkplug socket . . . and the AA's Seal of Approval. £50.43 to you — and very realistic, too

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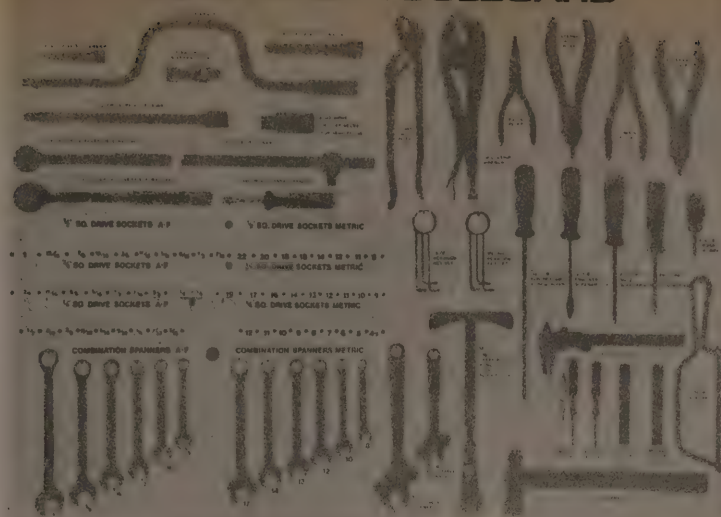
bones that broke. The verdict by AA metallurgists? Hydrogen-induced cracking... from a fault in the electro-plating process that gave the tools their glitter.

For a Pandora's box of horrors, however, consider the 150-piece toolkit from Taiwan that arrived in an impressive, five-shelf metal container — a solid array of glistening efficiency. But of 54 sockets, no fewer than 16 were too small, more than a third of the spanners were undersized, and none of these tools met British Standard hardness tests. The hammer head was loose and the shaft split, while a rubber hammer was secured to its thin shaft by only a single nail. There were 18 other spanners that had been cut from 1/4 in thick steel plate — they could be bent by hand.

The main problems with tools is that, provided they look functional, the faults are unlikely to come to light until they are used. And even if a breaking tool doesn't cause injury, it will almost certainly cause delay, not to mention the real possibility of badly damaging the car. So what precautions can the DIY man take to avoid these pitfalls?

'A good tip,' says Barry Fox, of the AA's test team, 'is to buy only those tools with the maker's name, the country of origin and any essential size markings permanently stamped on them.'

WORKSHOP TOOLBOARD



These toolish things remind me of where everything should be. The JPI Workshop Toolboard is fiendishly simple and effective: the hooks provide a place for each of 112 popular tools; the shadows behind reproach forgetful mechanics who don't put them back after use. You can buy the board and tools as a complete kit for £99.95

Always inspect the tool closely before purchase, looking at the finish and markings.

'It could also pay to take along a selection of nuts and bolts to check that the spanners are correctly sized. Check the ratchet mechanism of a socket set — the more prominent the reversing mechanism, the easier it will be to use when your hands are greasy.'

Sockets themselves should be fairly deep — at least half the diameter — and there should be a groove in the square drive to grip the spring ball. And it's a good tip to start your toolkit with shorter-handled spanners: you won't be able to apply so much force, so you'll avoid stripping threads.

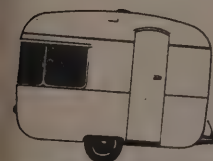
'The corners in the jaw of an open-ended spanner should be

rounded rather than angled: it distributes stress better. Pliers (of which very few meet the standards in AA tests) should be inspected for looseness of the centre rivet; the jaws should also fit together in alignment and the gripping grooves should mesh. A hammer should have a heavy head and a light handle that should be fixed securely in place by wooden or metal wedges. Screwdrivers should have well squared-off blades, and, if the handle has a rubber cover, check that it's tight on the plastic handle.'

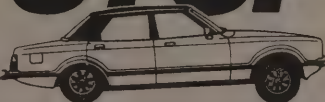
YES, YOU CAN HAVE ONES FOR THE ROAD

MORE THAN SEVEN OUT of every 10 roadside breakdowns could be avoided — or at worst reduced to a temporary hiccup — if motorists carried out regular simple servicing. And some half of the thousands incidents to which AA patrols are called could be a minute or two's work on the hard shoulder for the keen DIY man champing to resume the journey. But only if he's prepared with a small set of travelling tools and spare parts, plus one or two items

continued on page 64

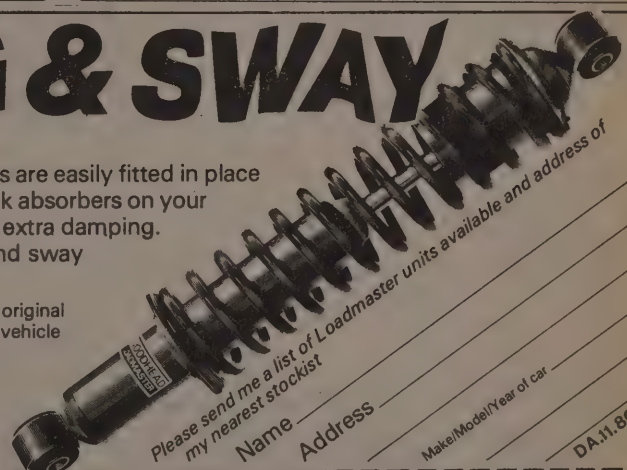


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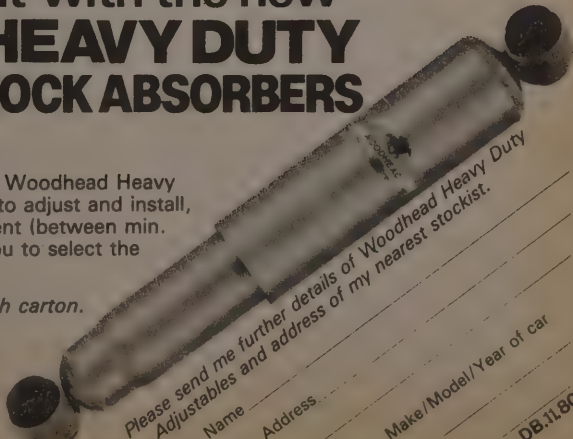
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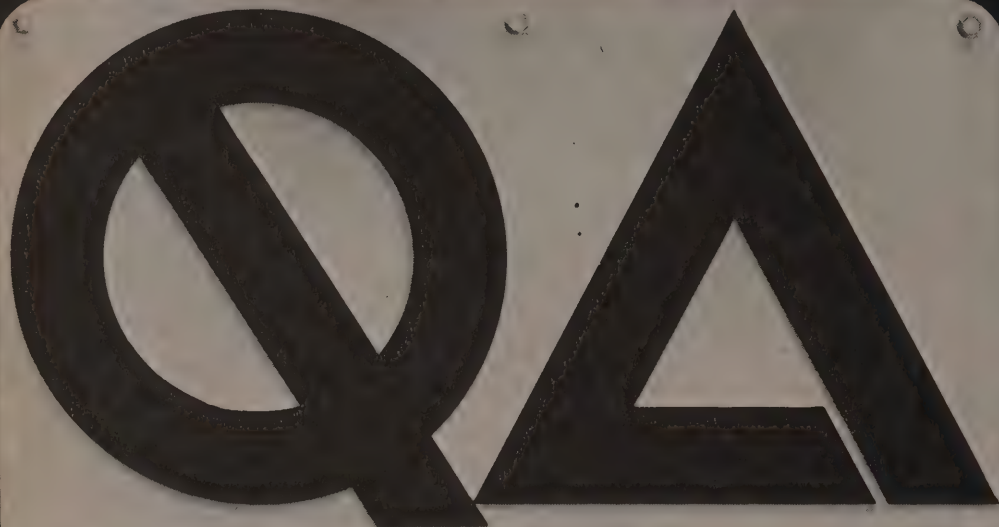
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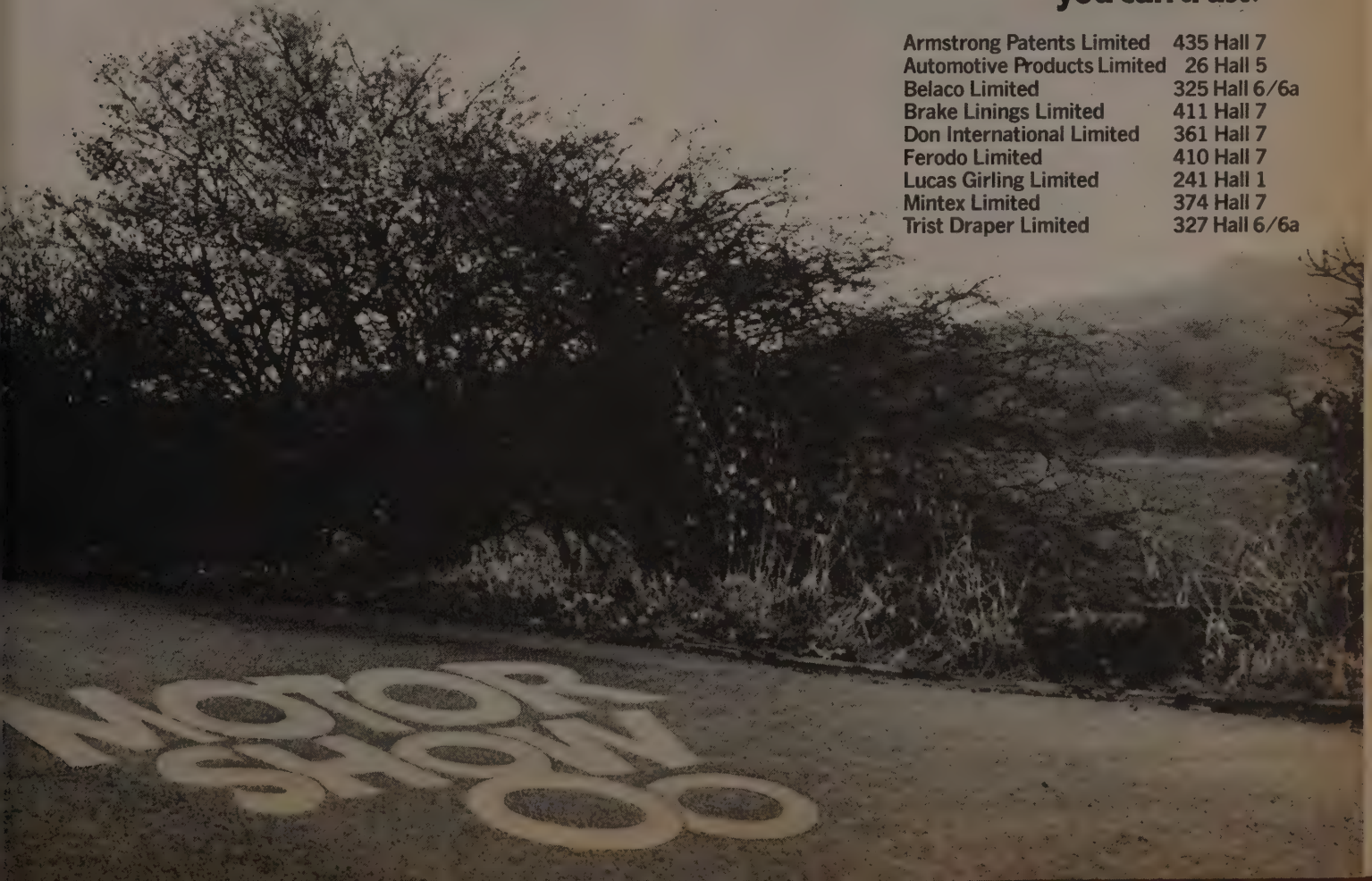
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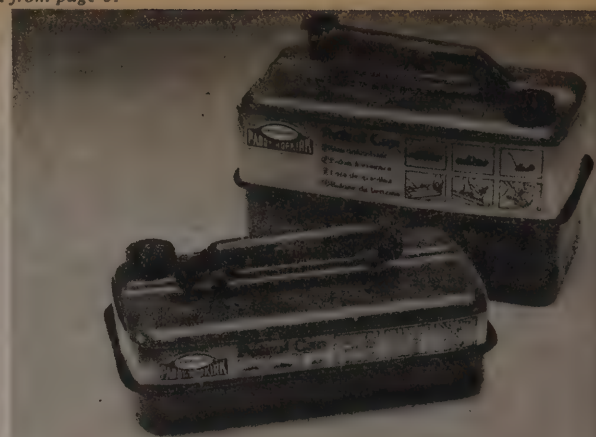
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THE TOOLS AND THE JOBS continued from page 61

that are strictly for emergencies.
In the last-resort department
are petrol cans, emergency
windscreens, fire extinguishers
and towropes. Petrol cans have
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tered, recycled gallon oil can
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fuel). Some of the latest top-
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duced by Paddy Hopkirk's Mill
Accessory Group, have a pack-
ing of fine aluminium mesh that
occupies less than 1% of the can
volume, yet vastly reduces the
risk of igniting the contents. Cal-
led Expamet Explosafe, this
development may also be used in
the car's own tank in future to
reduce fire risks.

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windscreen market is Humphrey
Thompson, with the Compact
range of flexible screens rein-
forced by thin metal rods — an
excellent get-you-home device,
especially in bad weather, but
make sure you get the right depth
of screen for your car.

You might think that a towrope
is a towrope is a ... but
even this simple aid has been
ingeniously improved by the
march of technology. Masquerad-
ing under names such as Auto-
splice, Braidlok and Rollorope is
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in each of the rope ends to make



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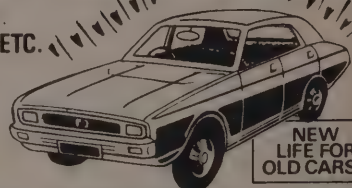
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Govt's tests report: (Waxoyl) "Metal unchanged." This is music to Finnigan's
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Top left: the Rolls-Royce of jump leads, the Loc Jaw range has locked contact crocodiles... and a Rolls price — £16.57. Left: friends in a can. The Redex aerosol-discharged fire extinguisher meets the AA's Seal of Approval requirements for only £6.10. Sicli's P11 dry-powder version — also with the AA Seal — is refillable, but it costs £12.36 (refills £7.07) for the 1kg size — the minimum for safety. WD40, on the other hand, is for when you're not firing: a squirt of the all-purpose water repellent will dry off condensation-soaked ignition systems to get you going again. From about £1.55

your own tow loops; as the rope tightens, the splice locks up — and, unlike a knot, the splice parts easily at the end of the tow. Prices are around £3 for a 12ft rope.

The most-suitable fire extinguishers for use in a car are those in which the agent is a halogenated hydrocarbon (BCF) or a dry powder. AA engineers say that the smallest size you should carry is 600g for BCF and 1-2kg for dry powder. Extinguishers with the AA Seal of Approval are Paddy Hopkirk's PGLi models (1kg and 2kg dry powder), the Sicli 1kg dry-powder model, and the Redex RF1 600g BCF aerosol type.

Toting your full toolkit around in the boot takes up luggage space, and its redundant weight costs fuel, so pack a small kit with just the bare essentials for roadside repairs. Like the AA Motorists' Tool Roll (price £10.95), this could consist of six combination spanners, two screwdrivers (normal plus Phillips or Posi-drive), pliers and a plug spanner.

Just as important as tools is a small pack of spares and materials — pvc insulating tape, about 18in of high-tension plug cable, a can of emergency radiator sealant (Bar's Leake, Holts Radwell or similar), a fan belt (the correct one for your car), one sparkplug and a contact-breaker set are musts. A length of soft-iron wire and some spare electrical cable

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are useful extras. Many car manufacturers sell an approved crushproof pack of spare lamp bulbs that will keep you inside the law. Help comes in cans, too: an aerosol pack of Holts Damp Start and some Cadulac Rocket WD40 all-purpose lubricant could overcome many a hitch in starting; small tyre inflators that deliver up to 120psi are now widely available — the Paddy Hopkirk and Command models are examples, at prices from £16-£25 — so that a flat spare tyre need no longer be the ogre it once was.

to make the work go smoothly, approach or even beat a garage time for a job, and, just as important, avoid costly mistakes that might subsequently have to be rectified by a garage?

For the absolute beginner, there's no better start than a general car-maintenance book, and, without being unduly biased, DRIVE can hardly do better than to recommend three of the AA's own titles. *Car Care*, prepared for Marks and Spencer, includes illustrated guides to the 100 most-common servicing jobs (price £3.75). *AA Book of the Car* is a superbly illustrated guide to the principles of the car's major systems, preventive maintenance and DIY repair, it also contains sections on driving and other motoring matters (£9.95, post free). For a much more-intensive course in the nitty-gritty of DIY, including clear step-by-step photos, fitting accessories, planning a weekend's DIY and idiot-proof fault diagnosis, get the recently launched *Know About Your Car* (£8.95 from AA outlets or £9.90 by post).

These books will add enormously to your enjoyment of a course of evening classes on car maintenance. All over the country, local-education authorities offer beginners' and more-advanced classes in car care. But be a little selective, if you can, about the course that you attend: adult-education officers have freely admitted to DRIVE that the quality of teaching varies considerably from area to area; the worst offender is the former garage mechanic, advanced in years, who has conducted classes for at least a decade using a bag of worn-out bits and his own Morris Minor (or, even worse, an obscure Iron Curtain import) as his sole aids to teaching. Try to meet the instructor at the enrolment, ask if he is familiar with your own make and model of car, and check whether you will be able to work on it during practical sessions. If you have read and largely understood one of the general books, don't enrol for a beginners' course. Evening classes cost from around £10 a term — an investment that you will easily recoup in your first servicing session.

Before you roll up your sleeves and take the shine off those new spanners, however, you will need a little more specific advice about the quirks and foibles of your own car. There are some servicing guides on the market that are intended only to flesh out the many gaps in the manufacturer's handbook; these are useful for simple servicing, but not much more.

A few car manufacturers will sell an official manual to an owner, but you will probably find it full of references to special tools held only by dealers. Both the



DANGEROUS shock absorbers... faulty brake linings... counterfeit parts. There are any number of pitfalls awaiting the unwary, so

what can you do to ensure that you buy products you can trust?

Be suspicious of items that are outrageously under-priced. They could cause expensive damage by failing in next to no time. Chances are that you will not only pay to have things put right, but also finish up buying the item you should have chosen in the first place.

By all means, shop around. But, if in doubt over which brand to look for, seek advice from a main dealer that sells your make of car. Make sure, too, that, where appropriate, the item carries a recognised approval symbol such as the kite marks of the British Standards Institution or the British Electrical Approvals Board; the E-mark signifies that a product meets European standards.

Buy only from reputable dealers, or from outlets displaying the badge of a recognised trade federation. And check that the tool or component is guaranteed.

Where possible, choose products that carry the AA Seal of Approval. If they don't, you can always call up the AA for an expert opinion on what you should buy. Phone or write to the Technical Services' departments at the regional headquarters.

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AUSTIN MORRIS	Visa '79/80 on	Escort 1 & 2 Sal & Gha	104H Coupe 2S	
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AUSTIN MORRIS	33 44 & 55 66	Zodiac V6c	505 80	
Mim Sal to '89	44 Est 66 Est 46	Conquest Granada		
Mim Sal '70 on	DIAMAT SU	Gha & Estate	RENAULT	
MC Coupe 8.5	XTE Charade	Transit Cab	R4 RS RB	
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AUSTIN MORRIS	New Cherry HiBack	Granada Est Aug '77 on	R12 Est Oct '75 on	
Mim Sal to '89	100A Cherry	R14	R15 R17 R16	
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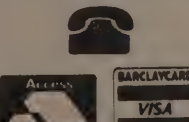
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THE TOOLS AND THE JOBS
Brakes

Venturing further into DIY than simple servicing needs a manual. Clear diagrams and down-to-earth hints and tips



from dealership mechanics make these new Autodata manuals a bargain at only £4.25

manuals and the tools are expensive. The alternatives are the manuals specially designed for the DIY man, such as those produced by Haynes, Autodata and Autobooks. The Haynes manuals, in particular, are adept at pointing out DIY solutions to problems that garages solve with special tools, while Autodata details short cuts made by main-agent mechanics.

Most local libraries loan out workshop manuals, if you feel that buying one would not be economical for the small number of big jobs that you will work on.

Finally you will need to find out the exact technical specifications of your car. Make a short personal record of things such as the ignition-timing setting, the types of sparkplugs required and their gap setting. The part numbers of spares such as fan belts, oil filters and light bulbs can also be useful. Remember, some parts and settings can vary considerably between apparently identical cars of the same year: you should find that a dealer's service department will tell you the correct data to keep your car in tune.

WHEN IT PAYS TO LIVE ON BORROWED TOOLS

AS YOUR DIY expertise increases, there will come the day when you want to make a major repair that really can't be done without the use of a special and usually expensive tool. Clutch replacement, for example, goes much more smoothly with an alignment tool; cylinder-head overhauls need a torque wrench, a valve-spring compressor and perhaps a valve-seat grinder; wheel-bearing refits need special pullers.

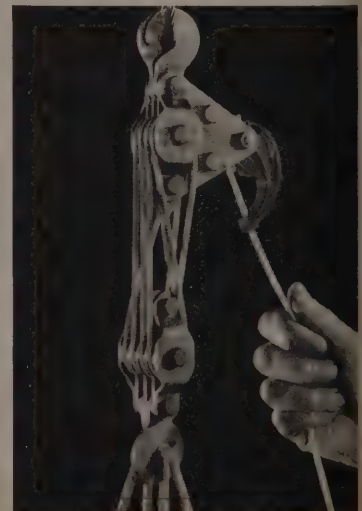
Help is usually close at hand in *Yellow Pages*, listed under Hire contractors — Tools and Equipment. Indeed, such has been the

growth in the services to DIY men that you may find several companies offer the tools you need, so shop around.

First, however, you must plan out your job, so that you know roughly how long it is going to take (and include a generous margin for things to go wrong). Try to arrange the job so that any special tools are needed for just a single day — usually the minimum hire period. You may find, however, that the hire shop offers special terms for return within the day of hire (instead of the next morning) or for half a day's use.

In a recent check of tool-hire charges in several major towns, *DRIVE* found a wide variation in prices. In one town alone, an engine hoist could cost you from £5.75 to £8.40 a day, between £1.25 and £3.22 a day could be charged for a valve-spring compressor, a week with a torque wrench could be anything from £2.88 to £4.37, and a hub-puller was priced at £1.72 to £3.68 a day. Oddly, one company with a low day rate charged by far the highest weekly rate. Remember that on top of the hire charge you usually have to pay a deposit that reflects the value of the tool — £2-£20 is typical.

When you collect the tool



Surprisingly, changing an engine can be simple. The Haltrac 22a Midget Hoist makes light of 1000lb for £9.46.

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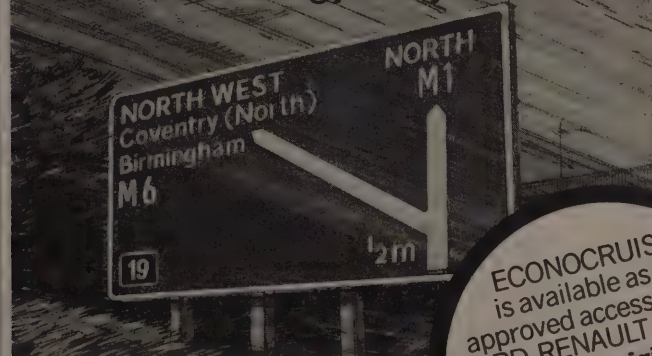
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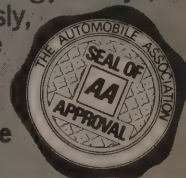
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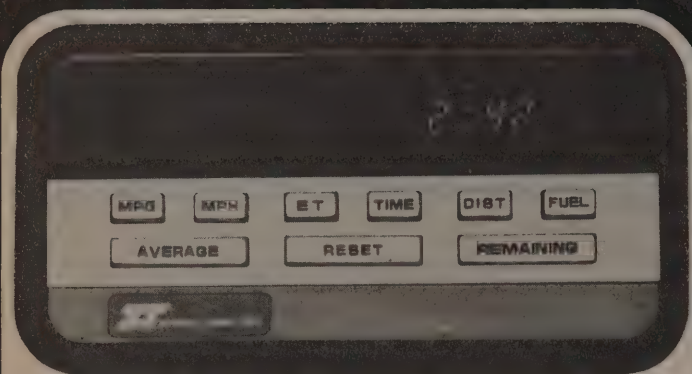
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THE TOOLS AND THE JOBS

check it over carefully to ensure that it is in working order, or get the shop to demonstrate it: frequent use and abuse takes its toll of hire tools. If it is an electrical tool, check for unsound flex and connections; on mechanical items, ensure that there is only acceptable wear of parts. And, before signing the hire agreement, take the — often lengthy — time to read the conditions, particularly about forfeit of deposit.

There are other ways to obtain specialised equipment. If you are lucky enough to live near Milton Keynes, there's a brave new venture to aid the DIY motorist, at the workshop of the MKOK co-operative. Modelled on Sweden's OK co-operatives, this scheme is a pioneering experiment by the Mutual Aid Centre.

The MKOK service centre has 10 fully equipped garage bays, each with a full range of tools and sophisticated garage equipment for hire. Mechanics are on hand to give advice, and, if the job's going really badly, they will complete it... at normal garage rates, of course! Annual membership of MKOK is £10, bay-hire charges are £1.50 an hour (£2 to non-members), and the on-site parts shop gives 25% discounts to members. All of which may seem a bit academic if you don't live near Milton Keynes; but the suc-

cess of the experiment — nearly 1100 members after just one year — points to a need that may be filled in other towns by new Mutual Aid OK Centres.

There are, however, some tools and instruments that may pay you to buy, both because they are difficult to hire and because they will generally pay for themselves in time. Electronic instruments are increasingly necessary to achieve spot-on tuning accuracy. They get the best out of worn components and directly benefit fuel economy, so the £20-£30 that you might spend on one or two invaluable items could easily be repaid in a year or two.

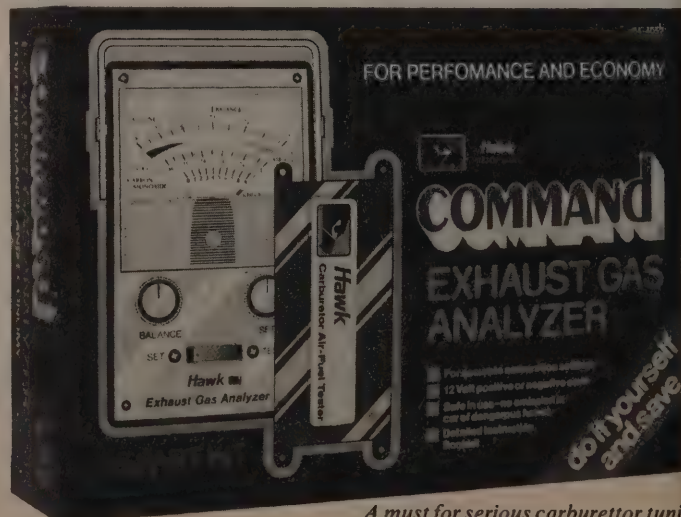
Gunson's, maker of the ingenious window-on-the-combustion-process Colortune plug at £11.39 (useful for pre-1976, non-sealed-carburettor cars), has a new multimeter instrument, the Testune, at around £28 which covers all electrical tuning and measuring to near-professional standards. This supplements the Gunson range of bargain-basement tune-up aids — Sparktune, an ignition-adjusting meter, at £12.54; Tachostrobe, a xenon timing lamp and tachometer, at £19.44; and Carbalancer for synchronising twin carburettors, at £6.21.

Gunson's isn't, however, the only outfit in the tune-up business: a parallel range of more conventionally designed instruments, that includes compression testers, xenon and neon timing lights and — most unusually — an exhaust-gas analyser, is imported by Narco under the Command brand. Speedograph is another brand of good-value tachometer and dwell-angle meters and stroboscopic timing lamps.

A really useful instrument set that you could share with friends or neighbours would consist of a xenon stroboscopic timing lamp, a tachometer/dwell-angle meter/voltmeter and a compression tester. You could then be really free of that service bill.



Simply effective — SPQR's Trakrite brings wheel-tracking tyre savings for £27.44. Should pay for itself in a few years, however.



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Lower interest rates on loans for AA members

Whatever you're thinking of buying you'll find it better to buy now with the help of an AA Members' Loan.

* You can buy now, at today's prices. These days waiting while you save isn't prudent any more. It simply means having to pay a new higher price... if your savings run to it.

* You can shop around with all the advantages of paying cash.

* You spread the cost by equal monthly instalments.

* Your instalments are lower than under a standard Mercantile Credit personal loan plan because you enjoy a special reduced rate of interest arranged exclusively for AA members.

* This rate is fixed for the whole term of the loan, so your payments cannot change – you know exactly where you stand.

Save time by using the form opposite to apply for your loan now. We promise you a speedy answer.

How much? How long? The minimum initial loan is £200 and the maximum £5,000 and usually repayment can be spread over periods of up to five years, even longer for more costly home improvements.

All loans are subject to compliance with government controls; for example, the maximum loan on a motor car is two thirds of the cost and the longest repayment period is 24 months.

Apply now. Below are tables at the current rate of interest which will help you decide on the loan which suits you best.

Complete the application form opposite and post it to Mercantile Credit FREEPOST, P.O. Box No. 75, London WC2B 5XA... no stamp is needed. You will receive a personal cheque within a few days of your loan being approved.

The table below shows the monthly repayments, total amounts payable and annual percentage rate of charge for specimen loans over selected periods and is representative of current terms. Figures specific to the loan you require will be given before you agree to any offer we make. The table shows current rates, which are subject to change, and the relevant rate will be notified at the time any offer is made. This rate is then fixed for the whole repayment period.

AA MEMBERS' LOAN MONTHLY REPAYMENT TABLES

The annual percentage rate of charge for credit is shown marked 'APR' in each case

Interest on amount of loan: 1-2 years – 14.5% flat for each 12 months 3-5 years – 15% flat for each 12 months

Amount of loan	12 MONTHS APR 29.3%			24 MONTHS APR 29.2%			36 MONTHS APR 29.5%			48 MONTHS APR 28.7%			60 MONTHS APR 27.9%			Amount of loan
	Interest	Total Repayable	Monthly Instal.	Interest	Total Repayable	Monthly Instal.	Interest	Total Repayable	Monthly Instal.	Interest	Total Repayable	Monthly Instal.	Interest	Total Repayable	Monthly Instal.	
£	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£ p	£
1000	145.04	1145.04	95.42	290.00	1290.00	53.75	450.08	1450.08	40.28	599.84	1599.84	33.33	750.20	1750.20	29.17	1000
950	137.80	1087.80	90.65	275.44	1225.44	51.06	427.36	1377.36	38.26	570.16	1520.16	31.67	712.60	1662.60	27.71	950
900	130.56	1030.56	85.88	261.12	1161.12	48.38	405.00	1305.00	36.25	540.00	1440.00	30.00	675.00	1575.00	26.25	900
850	123.20	973.20	81.10	246.56	1096.56	45.69	382.64	1232.64	34.24	509.84	1359.84	28.33	637.40	1487.40	24.79	850
800	115.96	915.96	76.33	232.00	1032.00	43.00	359.92	1159.92	32.22	480.16	1280.16	26.67	599.80	1399.80	23.33	800
750	108.72	858.72	71.56	217.44	967.44	40.31	337.56	1087.56	30.21	450.00	1200.00	25.00	562.80	1312.80	21.88	750
700	101.48	801.48	66.79	203.12	903.12	37.63	314.84	1014.84	28.19	419.84	1119.84	23.33	525.20	1225.20	20.42	700
650	94.24	744.24	62.02	188.56	838.56	34.94	292.48	942.48	26.18	390.16	1040.16	21.67	487.60	1137.60	18.96	650
600	87.00	687.00	57.25	174.00	774.00	32.25	270.12	870.12	24.17	360.00	960.00	20.00	450.00	1050.00	17.50	600
550	79.76	629.76	52.48	159.44	709.44	29.56	247.40	797.40	22.15	329.84	879.84	18.33	412.40	962.40	16.04	550
500	72.52	572.52	47.71	145.12	645.12	26.88	225.04	725.04	20.14	300.16	800.16	16.67	374.80	874.80	14.58	500
450	65.28	515.28	42.94	130.56	580.56	24.19	202.68	652.68	18.13	270.00	720.00	15.00	337.80	787.80	13.13	450
400	58.04	458.04	38.17	116.00	516.00	21.50	179.96	579.96	16.11	239.84	639.84	13.33	300.20	700.20	11.67	400
350	50.80	400.80	33.40	101.44	451.44	18.81	157.60	507.60	14.10	210.16	560.16	11.67	262.60	612.60	10.21	350
300	43.56	343.56	28.63	87.12	387.12	16.13	134.88	434.88	12.08	180.00	480.00	10.00	225.00	525.00	8.75	300
250	36.32	286.32	23.85	72.56	322.56	13.44	112.52	362.52	10.07	149.84	399.84	8.33	187.40	437.40	7.29	250
200	28.96	228.96	19.08	58.00	258.00	10.75	90.16	290.16	8.06	120.16	320.16	6.67	149.80	349.80	5.83	200

Above rates effective as at 1st August 1980

Ref: AD10411 (3/80)



Application Form

Post to: Mercantile Credit Co. Ltd., FREEPOST, P.O. Box No. 75, London WC2B 5XA.

Surname _____

First Names _____

Married ☐ Single ☐ (Tick as applicable) Date of birth _____

Nationality _____

Are you in good health? YES ☐ NO ☐ No. of dependent children _____

Full postal address _____

Postal Code _____ Tel. No. _____

How long at present address? _____

Owner ☐ Tenant ☐ House ☐ Flat ☐ Rooms ☐ Living with parents ☐

Profession or trade _____

Name of employer _____

Business address _____

How long in their employ? _____

Bankers _____

Bankers address (in full) _____

Do you hold a Barclaycard? YES ☐ NO ☐

DEPT. SERIAL NO. CHECK DIGIT

--	--	--	--	--	--	--	--	--	--

Occ. Code

--	--	--

AA Membership No. _____

Purpose of loan (give details) _____

Total cost of goods or service £ _____

Amount of cash required £ _____

Repayment period required in months _____

Average net monthly take-home pay (i.e. after deduction of Income Tax, N.H.I. Contributions, etc.) £ _____ monthly

Any other income £ _____ monthly

Please submit your latest P.60 or other annual advice or at least two monthly/weekly pay slips.

Mortgage payments/Rent £ _____ monthly

Credit payments £ _____ monthly

Any other regular payments £ _____ monthly

Give details

I/We submit this proposal to you for a loan of £..... and I/We warrant the accuracy of the replies. You may make all the enquiries necessary to enable you to consider this application and from time to time disclose to the National Credit Register details in respect of this transaction excluding any information relating to income. If you need to clarify any information, in the application form, or obtain my agreement to the amendment of any documents, please regard this as a formal request to visit me at my home. It is understood that you reserve the right to decline this application without stating a reason. Membership of the Automobile Association or a previous or current account with Mercantile Credit do not of themselves ensure acceptance.

023

SIGNATURE _____ DATE _____

Mercantile Credit Company Ltd. Registered Office: Elizabethan House, Great Queen Street, London WC2B 5DP. Registered No. 290277 England.



Past masters of persuasion

THE WORLD OF cars has always been fiercely competitive, and the lesson that 'it pays to advertise' was learned and acted on almost from the very beginning. Designed for a purpose, the majority of advertisements are quickly forgotten. A few, however, catch the public imagination, promote the product beyond the dreams of the copywriter, and occasionally pass either into the language of the day, or even into history. Here, in the 75th-anniversary year of the AA, MICHAEL WORTHINGTON-WILLIAMS of Sothebys selects 10 of the best and gives his reasons, while Christopher Rainer, account director of Crawfords advertising agency, gives his opinion of how effective they would be in today's media-conscious world.



▲ M Dudovich, circa 1934

Fiat's influence on the 1920s and 1930s automobile world was undisputed, particularly in its native Italy; but there was — and is — one body in Italy with greater influence: the Vatican. While one would look hard today to find offence in this offering by Dudovich, and while it is unlikely, even 50 years ago, that the British Censorship Committee of the United Billposters Association would have found it more than slightly titillating, the line of the *signora's* buttock brought down Papal wrath on the advertising department at Turin: her skirt had to be redrawn!

'The lady's bottom is decidedly more attractive than the car's. Both the visual and the typography have pace. But would it make me buy a car?' — CHRIS RAINER



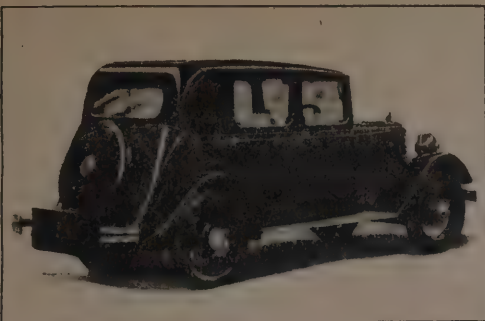
▲ Unknown, circa 1912

Poster art immortalised by masters such as Toulouse-Lautrec and Aubrey Beardsley, reached its zenith in the 1890s, and the lithographed poster was widely used by the bicycle companies during that period. Many bicycle manufacturers graduated to motor cars, of course, and the poster enjoyed a new lease of life — particularly in France and Germany — well into the 1920s. Germany of the time appears to have been obsessed with goblins, giants and demons, and there is certainly a demonic influence in this Bosch magneto ad. The composition owes a great deal to Beardsley, but there are subtleties: every car is joined by an electrical 'umbilicus' to the Bosch magneto, implying the almost-total dependence of both American and European manufacturers upon Robert Bosch's products.

'I've never been a fan of Aubrey Beardsley; this ad does nothing for me. In fact, I think that it has all the grace of Fu Manchu.' — CR



In the doldrums



To our extreme disappointment we are compelled to announce that so far at the Show we have not signed any contracts running into millions of pounds.

Other firms seem able to do it, but we can't. Can it be that our Sales Manager is always off our Stand when these anxious buyers are floating round?

Never mind.

We're working night and day and our "Kestrels" are winning golden opinions wherever they go, and 1933 is going to be a good one for Jowett owners and for Jowett Cars Ltd.

Get our Catalogue. You'll like it!

Prices from £135.

Tax £7.

JOWETT CARS LTD., IDLE, BRADFORD

▲ Gladney Haigh, 1932

Jowett's uncompromising spartan image — entirely in keeping with its Yorkshire background — was pursued gleefully throughout the 1920s and early 1930s, and copywriter Gladney Haigh made a positive virtue of the cars' agricultural specification. The fact is that Jowetts were tough little beasts that didn't wear out, didn't cost much and had no fads or frills. They were just what the public wanted during the Depression. Haigh's outpourings were blunt, irreverent and sometimes irrelevant, poked fun at competitors — particularly the big boys such as Ford — and delighted Jowett's buyers. This example is a deliberate jibe at competitors who invented stories of non-existent contracts to boost lagging sales and public confidence. His classic, however, was 'Old Jowetts never die, they simply pass to next of kin'.

Refreshingly individualistic, and totally in character with Jowett — a sort of Laker Airways of the motor industry. Isn't that what we need now?' — CR

▲ C F Hillyer 1938

Hitler came to power in 1933, and Europe generally was unsettled in the 1930s; as early as 1934, advertising copywriters were resorting to Jingoism. Gladney Haigh, of Jowett, was telling us that he preferred English music such as *Drink to me only to the music of Schoenberg, Handel or Wolf*. Others, however, were more subtle in their patriotism. C F Hillyer executed a brilliant series of ads in which the name Dunlop featured only incidentally on the tyres of the vehicles depicted, concentrating rather on those aspects of life that are oh-so-British. Here, we have the tennis party, complete with Bypass Tudor, but others in the series featured castles, London bobbies and red double-decker buses.

I've never been too fond of this style of illustration, but the subject is a superb evocation of a way of life that has gone for ever.' — CR



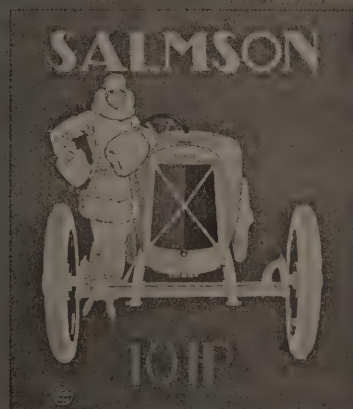
▼ Charles Fouqueray, circa 1925

Although some cheap cars were available before World War One, it was during the 1920s that Henry Ford, Herbert Austin and William Morris motorised the millions. For many, the freedom that the motor car provided opened horizons never before dreamed of, and touring holidays enjoyed a popularity and a following that today's congested roads will probably never recapture. Artist Charles Fouqueray captured exactly the romance of the open road with his series of ads for Shell petroleum. The slogan 'Carried Unanimously' reminds us that petrol pumps were few and far between, during the early 1920s.

'A nice touch, but the branding relies entirely on the petrol cans — which, of course, is the advertisement's charm.' — CR



"Carried Unanimously"



◀ Rene Vincent, circa 1920

Born in 1879, Rene Vincent was both artist and motor enthusiast — he held one of the first driving licences ever issued in France — and his prolific offerings straddle comfortably the veteran, Edwardian, vintage and post-vintage periods. Trained as an architect at the *Institut des Beaux Arts*, Vincent loved not only motor-cars but fashion and women, too, and his paintings — in this case for Salmson — combine not only his excellent eye for technical detail but also undoubted elegance. All are in the spirit of *La Vie Parisienne*, the magazine for which Vincent originally worked.

'Beautiful composition, delightfully drawn. I dread to think of the lady's clothes after a run in the wet without mudguards . . . — CR

◀ Guy Oulton circa 1930

There is a school of thought that a Rolls-Royce is ostentatious, and 'one' should buy a Bentley. But Armstrong-Siddeley? In the snobbish stakes, it always fell uncomfortably between the large Humber and the small Rolls-Royce stools; although Armstrong's 1930s Twelve was advertised as 'for the daughters of gentlemen', it never made much impact in the higher-income bracket. Not that it didn't try: this superbly drawn piece is reminiscent of a Cecil B De Mille stage set, and doubtless enraged the dole queues of Depression Britain. As an example of evocative graphic art, however, it takes some beating.

'An immaculately balanced composition, arranged so that the elegance of the building doesn't eclipse the grace of the car. A pity that this proud marque became extinct . . . which leaves just the Bentley.' — CR



WE ARE COMING IN THE CHRYSLER!

We shall not mind the rails and cobbles along the docks—(springs mounted in live rubber, shock absorbers, body built long and low—for steadiness!)

Out on to the great white road we shall shoot like a rocket—('Silver Dome' engine, six cylinders, seven crankshaft bearings!)

Up, up the mountain side a hundred miles ahead we shall flash (crankcase ventilation keeping the engine cool and clean!)

Down again into the valley beyond we shall sweep, like a bird, without fear—(brakes hydraulic, self proportioning!)

We shall not be tired when we reach you.

We shall not be late.

We are coming in the Chrysler!

Three great 6-cylinder ranges—Chrysler Imperial 80, Chrysler 75, Chrysler 65! The four-cylinder Plymouth—also by Chrysler! Chrysler cars of every type and price. See the models in the dealers' showrooms.

WRITE FOR CATALOGUES · CHRYSLER MOTORS LTD · KEN GARDENS · SURREY

▲ Ashley Havinden, 1929

Towards the end of the 1920s, there was a good deal of impatience with the 'old order' and a breaking away from the things of the past. Nowhere was this more noticeable than in the motor industry: nickel gave way to chrome, touring bodies were replaced by closed saloons, the coachbuilt era was being swept away by pressed steel and mass production, and art nouveau was no longer fashionable. It was the dawn of a new age, Huxley's *Brave New World*, and much was sacrificed upon the altar of modernism. Havinden's campaign for Chrysler captures the mood of the era and was correspondingly successful.

'This one has style! Beautifully crafted — wonderfully arrogant. I don't need to see any more of the car: I want one.' — CR

By many hands, 1964 ►

Every decade or so, we are treated to an advertising campaign that really takes off — the public, quite voluntarily and wholeheartedly, participates, and the whole thing becomes self-generating. The most successful of these pass into the vocabulary: 'go to work on an egg', 'can't tell Stork from butter' and similar slogans become the material for comedians' jokes and are abused by everyone, to the delight of their original sponsors. 'Put a tiger in your tank' was perhaps the auto campaign of the 20th century — certainly nothing stands out so well in my memory. From every corner and hoarding, we were confronted by a benign feline; we cheerfully hung tiger's tails from our petrol caps, collected plastic tiger's heads and generally kept the pot boiling beautifully for Esso. Now, 10 years later, a tiger still features in Esso ads . . . although, in deference to energy crises, it has become 'Hold that tiger'.

'It all seems passé, now, but the other petrol companies could only stand limply by while customers with near-empty tanks drove past in search of the Tiger. Undoubtedly the greatest advertising gimmick of the age.' — CR



Somewhere West of Laramie

SOMEWHERE west of Laramie there's a broncho-busting, steer-roping girl who knows what I'm talking about. She can tell what a saavy pony, that's a cross between greased lightning and the place where it hits, can do with eleven hundred pounds of steel and action when he's going high, wide and handsome.

The truth is—the Playboy was built for her.

Built for the lass whose face is brown with the sun when the day is done of revel and romp and race.

She loves the cross of the wild and the tame.

There's a savor of links about that car—of laughter and lilt and light—a hint of old loves—and saddle and quirt. It's a brawny thing—yet a graceful thing for the sweep o' the Avenue.

Step into the Playboy when the hour grows dull with things gone dead and stale.

Then start for the land of real living with the spirit of the lass who rides, lean and rangy, into the red horizon of a Wyoming twilight.



JORDAN

JORDAN MOTOR CAR COMPANY

▲ Ned Jordan, 1923

Although it wasn't his first ad, Ned Jordan's 'Somewhere west of Laramie' is certainly the best-remembered of all his evocative and lyrical prose. The fact that the ad is famous long after the demise of the Jordan Motor Car Company in 1931 (indeed, it is said to be memorised today by young Madison Avenue executives of Ogilvy and Mather) is a lasting tribute to its author. Jordan was, in fact, an adman first and an auto-maker second, and it was very largely due to his prowess with the pen that his car—a rather ordinary machine assembled from other people's bits and pieces—outlasted its competitors and remained in production from 1916 until 1931. His great asset was his full appreciation of the feminine influence: 'He writes the cheque, but she buys the car.'

'An advertisement that was obviously successful, but for me it is totally without style. I can think of far more-worthwhile things for would-be Madison Avenue executives to memorise than this piece of copy.' — CR



VROOM BY TRAIN TO

MOTOR SHOW



The National Exhibition Centre, Birmingham has its own smart new Railway Station with direct undercover access.

So don't drive yourself silly getting there - take the train to Birmingham International station.

There will be many additional fast Inter-City trains from London Euston and selected provincial centres, direct to Birmingham International.

Save time and trouble with a combined travel and show admission ticket, valid from 18-26 October.

Don't forget to book in advance! Ask for details of services and facilities at British Rail stations or appointed travel agents.



This is the age of the train ➔

How to open your garage door without leaving your car



Liftboy! Sit in your car. Press the button on your hand held transmitter - and your garage door opens or closes itself. Magic. The radio control triggers off a unique screw drive which works on most up-and-over doors, whatever the size. So forget the drag of garage doors. Liftboy keeps you dry, warm and safe. Automatically.

Is there one button missing in your car? Contact Liftboy for doors and gates

LIFTBOY LIMITED
46a MARLBOROUGH ROAD,
LONDON N22 4NN
TELEPHONE: 01-881 0011



Phone or write today for colour brochure:

£230

PLUS FITTING & VAT WHERE APPLICABLE

Local agents throughout the UK

Important NEW information for Winter motorists

The chart on the right demonstrates the value of NOSKYDS to motorists needing mobility during the Winter months.

NOSKYDS were invented and proved in the Alps, and are already used by companies and private motorists throughout Europe. They come complete with easy-stow case and are now available from car accessory outlets in the UK.

Feature	Chains	Studded Snow Tyres	NOSKYDS	Comments
Ease of fitting	★		★★	Can be fitted without removing wheels or jacking car
Portability/Stowage	★		★★	Lightweight — stows in neat, zippered case
Effectiveness				
— Fresh snow	★★		★★	Tungsten carbide studs give excellent lateral grip as well as good traction on snow and ice
— Packed snow	★	★	★★	
— Ice		★★	★★	
— Sideslip resistance		★★	★★	
Quiet running characteristics		★★	★	
Use on part-covered roads, patches of ice and snow on surface	Not recommended	★★	★★	Prolonged use on uncovered roads best avoided
Risk of tyre or car body damage	High	Low	Low	
Speed tolerance	Bad	Good	Fair	
Life	Good	Fair	Good	
Cost (typical) for 2 wheels of saloon car	£85	£70 + hubs	£57.50	Non-rusting — will last a lifetime

NOSKYDS are ideal for police and public services, doctors, veterinary surgeons, delivery vans, etc.

If you depend upon mobility in the snow, then you can depend upon NOSKYDS.

See them at your garage or accessory dealer NOW, or contact sole UK agents —

EUROTYRES Ltd.
Station Road,
Ilminster, Somerset
Ilminster (04605) 3011

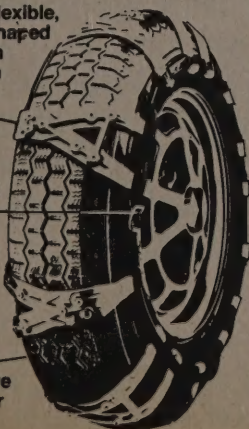


NOSKYDS — a case of snowmobility!

strong, flexible, blue Y-shaped bars with tungsten carbide studs

Easily adjusted strap fitting — flexible yet strong

No need to remove wheel for fitting



Don't forget

The Highway Code

One of the best sellers of all time. Includes all the latest Highway Code procedures.

72 pages Illustrated

ISBN 0 11 550433 8 **25p**

Know Your Traffic Signs

All the signs and symbols you're likely to meet. Vital companion to *The Highway Code*.

44 pages Illustrated

ISBN 0 11 550310 2 **60p**

Driving: The Department of Transport Manual

Designed for those who take their driving seriously. Answers many queries about technique and gives authoritative guidance.

230 pages Illustrated

ISBN 0 11 550355 2 **£2.25**



NORFOLK HOLIDAY CHALETs

Waveney Valley Holiday Village

AA Recommended

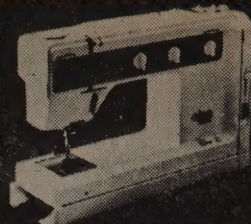
Chalets sleep 4-6 people. 3 miles from Gt. Yarmouth. Close to River Waveney. From £35 to £97: per week Including Linen and cancellation fee.

For Brochure:

Send S.A.E. to Mr. E. Boarder,
92 Spruce Avenue,
Ormesby St. Margaret,
Gt. Yarmouth, Norfolk NR29 3RQ
Phone: Gt. Yarmouth 730320

BUY FROM THE BIGGEST!

SEWCRAFT SEWING MACHINES



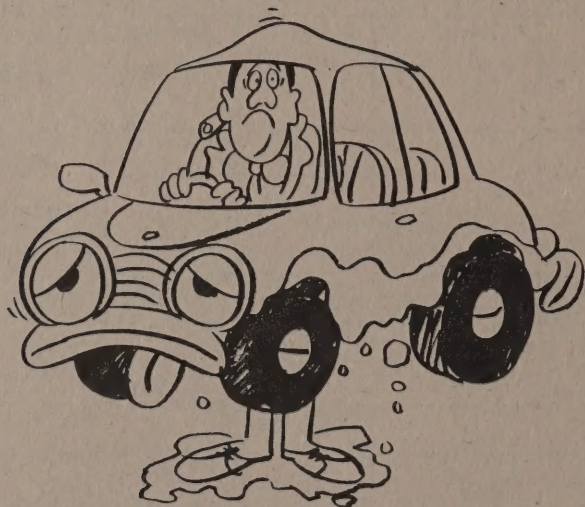
UP TO 45% DISCOUNT
off R.R.P. on
NEW SEWING & KNITTING MACHINES

The largest distributors in the UK of Frister & Rossmann, Viking-Husqvarna, Necchi, Pfaff & Elna sewing machines. We also stock and recommend Bernina, Toyota, Jones, Knitmaster, Novum, New Home, Singer and Riccar.

GUARANTEED HIGHEST DISCOUNTS IN THE UK. — We guarantee we are never knowingly undersold by any other bone-fide Sewing Machine Agent in the UK.

● Mail Order or visit our huge modern showrooms — the most up to the minute in the UK. ● Send for our colour catalogue and discount prices list to Dept. DR at our Thames St. branch or phone 01-546 5454/01-748 0808 or 5511 01-549 3801 ● **PART EXCHANGES** welcome ● Dependable after-sales service ● Makers full Guarantees ● Full demonstration facilities ● Immediate Free delivery in UK.
HAMMERSMITH: 150-150a King St, London W6. Mon-Sat 9.5.30 Thur 9.1.
KINGSTON: 34-36 Thames St, Kingston-on-Thames, Surrey. Mon-Sat 9.5.30
Easy parking both branches.

WILL YOUR NEW CAR STAND UP TO RUST?



Dinitrol®

vehicle rustproofing

Can you be sure (despite every effort by the manufacturer) that your new car will remain rust-free? You can't. And it won't! 30 years experience in the worst of Sweden's weather, (and subsequently across most of the world!) gives us the know-how to combat rust by prevention. Visit your local DINITROL CENTRE and get the facts about the most thorough rustproofing you will find anywhere — WORLD-WIDE.

See us in **YELLOW PAGES** or ask the operator to connect you to Freefone 2368 for details of your nearest centre.

DINOL (CAR CARE) U.K. LTD. Commerce House, Stuart Street, Luton, Beds, LU1 5BY.

EXCLUSIVE
TO ALL AA MEMBERS

TWO for the price of ONE!

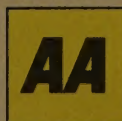


AA membership now entitles you to take advantage of an exclusive arrangement between the AA and Crest Hotels. If you hold a valid Membership Certificate you are now entitled to:

- * book a double or twin room at the normal single rate at any time of the week.
- * receive a 10% discount wherever Crest Hotels offer special rates at weekends under their Welcome Breaks scheme.
- * receive **free** accommodation at weekends (Friday, Saturday and Sunday nights) for up to 3 children under the age of 14 years accompanying parents.

This offer operates in 50 Crest Hotels and a leaflet giving full details of the scheme is available from all AA Service Centres and Crest Hotels.

With an offer like this can you afford not to be an AA member?



IT PAYS TO HAVE THE BEST



Parliament Square is as hard on brakes and clutches as Brands Hatch.

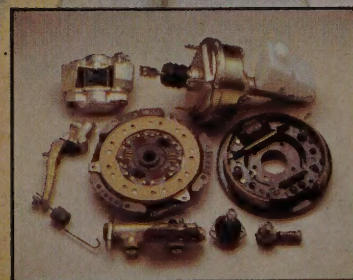
With today's roads getting more and more arduous, it is not suprising that people are demanding more of the clutches and brakes they use.

That's why many major British and European manufacturers fit Borg & Beck clutches and Lockheed brakes.

Because they've been proved time and time again on the world's Grand Prix circuits.

In fact, more Grand Prix races are won on Borg & Beck and Lockheed than anything else.

And the experience we've gained on the track, we apply to every part we make.



Automotive Products Limited, Leamington Spa, Warwickshire, England.

Manufacturers of Lockheed brakes, Borg & Beck clutches, Lockheed steering and suspension. AP filters, AP silencers and AP automatic transmissions.